mental health digest

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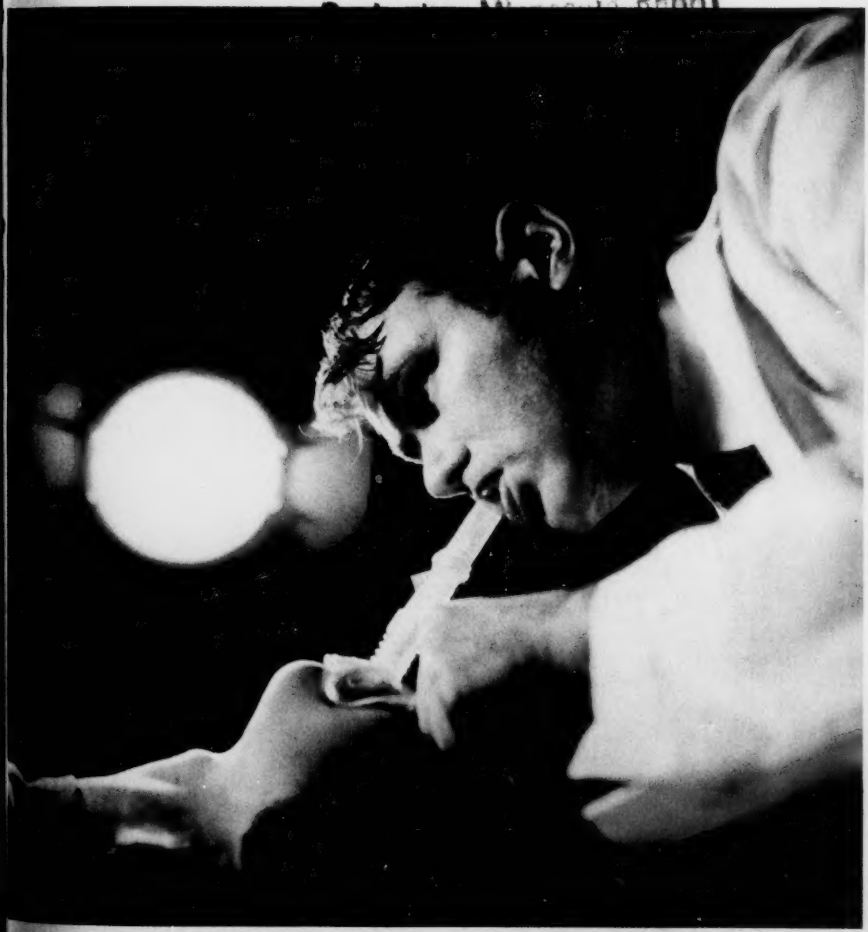

cover story

Drug Abuse

Scientists from all over the world are studying the problem of drug abuse in an effort to find better methods of prevention, treatment, and rehabilitation. The first several articles that appear in this *Digest* are examples of the current literature. The cover photo shows one method of treatment for acute heroin toxicity. The method is outlined on page 32. (Cover photo reprinted by permission from *Hospital Physician,* copyright 1971 by Medical Economics, Inc.)

mental health digest

The *Mental Health Digest* is a monthly publication designed to reflect the whole spectrum of mental health and to present a broad sampling of scientific subject matter and professional points of view. It contains condensations of material selected from the current mental health literature. The condensations are published with the approval of the authors and publishers for use in the *Mental Health Digest* only.

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Drug Abuse in Other Countries

The problem of widespread and growing drug abuse is worldwide. Other countries besides the United States are attempting to combat drug abuse and to develop new and more effective methods of prevention, treatment, and rehabilitation. The following articles represent recent experiences in this field by four of these countries—Norway, the USSR, Israel, and the United Kingdom.

Drugs in Norway—Attitudes and Use

OLAV IRGENS-JENSEN AND SVERRE BRUN-GULBRANDSEN

In Norway, the authorities and the mass media have in recent years devoted considerable attention to the use and abuse of dependence-producing drugs other than alcohol. One reason for this heightened interest is that changes have been observed in the relatively stable pattern of abuse existing in the past, especially since cannabis and hallucinogens, which up to a few years ago were practically unknown to the average Norwegian, have begun to enter the country.

Alcohol has traditionally been the principal intoxicant in Norway, and has been accorded the greatest attention on account of its harmful effects. A few hundred morphine addicts constituted the country's biggest narcotics problem. There has been a rising abuse of barbiturates, and also an increase in the abuse of meprobamate and, of late, of diazepam and chlordiazepoxide. This sharp increase has, however, not received much notice from the general public nor led to any widespread public debate.

In the mid-1960's, however, when the first signs of illicit use of cannabis by Norwegian youth came to the attention of the authorities and the general public, there was an immediate outcry. Relatively strict legal measures were introduced to cut down offenses of this type. The mass media gave widespread coverage to the subject and featured lurid descriptions of the grave effects of such drugs, especially cannabis, but also to some extent LSD. Legal and medical authorities immediately took a firm stand against these drugs, and they have served more or less as leaders of an informatory and propaganda campaign directed against drug taking in general and against the use of cannabis in particular. This campaign was designed to foster an aversion to the use of such drugs among the population as a whole.

Today we are faced with the situation that, in just a few years, drugs that previously were barely heard of have become the focus of public attention. Accordingly, it may be asked to what extent the campaign reached the man on the street, what attitudes or opinions it generated in regard to drugs, and to what extent such opinions coincide with expert opinion reflected in professional literature and research reports.

An attempt to assess the effect of the campaign has been made by the National Institute for Alcohol Research in Norway. The Institute's study is based on interviews conducted

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in 1968 among a representative sample, about 200 persons, of the adult Norwegian population. The data indicate that the effect may have been powerful, at least as far as cannabis is concerned. Only 1.9 percent of the respondents admitted to ever having taken the drug. On the other hand, an extremely large proportion—more than 97 percent—said that they had heard about cannabis, and there is a good deal of evidence to suggest that their having "heard about" cannabis does not mean only that they have heard the name. Most people in Norway appear to look upon cannabis as an extremely dangerous drug, the use of which should be keenly combatted by society. Only 6 percent declared that they would like to try cannabis for themselves if they could do so legally.

These data would appear to indicate that the average citizen considers cannabis to be dangerous, but the question remains of how dangerous. The concept of danger has many aspects. One of them is the dependence-producing qualities of the drug; another is the danger of its intoxicating effect in certain circumstances; and a third is the possible harmful physical and psychological effects of prolonged use. As an initial approach to the problem of ascertaining how dangerous people consider these drugs to be, we experimented with two different kinds of questions. The first was designed to grade a selection of drugs according to how dangerous they were assumed to be in relation to each other.

LSD was, on the average, considered to be the drug which would give most cause for concern. It was followed by cannabis, morphine ranking only third. There is a considerable gap between morphine and the next two, amphetamines and alcohol, whereas these two are themselves evaluated as being more or less equal. Sleeping pills and tranquilizers are rated more or less equal, too, while tobacco clearly emerges as the least harmful substance of them all.

We then posed a different question, to measure the extent to which, in the opinion of the sample, various drugs —tobacco, alcohol, sleeping pills, morphine, and marihuana—are dependence-producing. The question posed the possibility of allowing a random selection of 100 young people to partake of each of these drugs for 1 month separately.

The data indicate that it was generally felt that smoking marihuana once a day for 1 month would be more likely to lead to dependence than would having an injection of morphine daily for the same length of time, and far more so than smoking 5–10 cigarettes, taking sleeping pills, or drinking alcohol to the point of intoxication daily for 1 month.

It seems that the informative and propaganda campaign has been highly successful, viewed in the light of its declared objectives. Practically the entire population seems to have heard of cannabis, and the great majority also of LSD. Most of the people have developed a strong negative attitude to these drugs and consider them to be highly dangerous—even more dangerous, in fact, than morphine. Cannabis is also thought of as having strong dependence-producing effects, much stronger, indeed than are credited to it by most experts.

The question may be raised whether the campaign was not *too* successful; not because of the opposition displayed by the sample to psychedelic drugs, but because of the tendency to view other drugs, such as morphine

and amphetamines, as being less dangerous than cannabis. A credibility gap may emerge between the public and authorities if the former, and especially the younger generation, gain the impression that the "establishment" have presented to them as facts what in reality are personal opinions or unproved hypotheses. Young people more often have first-hand experience with drugs, they are more likely to know people who have used them without detrimental effects, and they have greater access to information from other sources. The dangers of such drugs were rated differently by a representative sample of Oslo students, young people who may be assumed to know more about them than does the population in general. These students also rated LSD as the most dangerous drug, but they put morphine in second place, followed by amphetamines; cannabis was rated only fourth.

Another important question concerns the long-term effects of the rather severe penalties imposed for relatively minor drug offenses. At present the strict antidrug laws appear to accord with the general public's sense of justice, but this "sense of justice" has probably in large measure been created by the authorities themselves on the basis of their own special concept of the danger of these new psychedelic drugs. The consequence has been, however, that many young people who have never before been in conflict with the law and who definitely need social and psychological help, have come before the courts and in not a few cases been sentenced to prison. As a result of the public's condemnatory attitude, these youngsters have been badly stigmatized. This social stigma makes their return to society doubly difficult and may lead to continued association with delinquents or to gravitation toward more dangerous criminal elements, and compounds the problem of freeing them from the hold of drugs.

We have, however, no definite evidence to suggest that the possible hazards referred to really have had widespread and undesirable effects in Norway. As a whole, the authorities, at least up to 1970, seem to have the drug problem reasonably under control, in the sense that there has been no real epidemic spread of the new drugs throughout the country. Data obtained from survey studies of the use of drugs among young people point clearly to the fact that, up to the present, drug problems have been much less widespread in Norway than in the neighboring countries of Sweden and Denmark.

The National Institute for Alcohol Research made a study of a representative sample of young people in Oslo between the ages of 15 and 20 years. Anonymous questionnaires were sent to more than 1000 persons and answers were received from about 80 percent of them. In 1968 and 1969 it was found that only about 5 percent admitted that they had tried marihuana or hashish. By April 1970, however, the percentage had risen to 8 percent. Although it was found that among the youth of Oslo three or four times as many have tried cannabis as among the population as a whole, the percentage is still relatively low. The study in 1970 also showed that use of other drugs was rare among the youth of Oslo. Very few of those in Oslo who had tried cannabis had used it more than once or twice. On the whole, the majority of those polled were, in fact, much opposed to use of such drugs. Only 3 percent thought cannabis ought to be sold in Norway

without restriction, and only 5 percent of the youngsters who had not themselves tried any of these drugs said they would be prepared to try them if they were allowed to do so.

The conclusion must thus be drawn that use of cannabis, as well as of other drugs, among the youth of Norway is on a relatively small scale compared with that in many other countries. By and large, Norway is still not as urbanized as the other Scandinavian countries. Puritan traditions are still widespread in Norway. Norway has pursued a much more restrictive policy in regard to the use of cannabis and other drugs than have the other two Scandinavian countries.

The epidemiological studies of young people's use of cannabis have also provided some data which reveal that those who have used cannabis seem to have more psychological problems than those who have not. Among the few Oslo youngsters who had tried marihuana or hashish there was a certain preponderance of young people from broken homes and of school dropouts. With increasing use of cannabis we find an increasing percentage with symptoms of maladjustment. Thus, it must be assumed that the use of drugs is for many of these youngsters more a symptom of underlying psychological difficulties than a sickness itself.

Epidemiological studies of the type outlined here can, despite many methodological shortcomings, provide a background for causal reasonings on the subject of drug abuse. It cannot always be assumed that an increase in the overall consumption of a drug will lead to a corresponding increase in its abuse. Knowledge of frequencies of use and consumption patterns in the population, however, is of interest because it provides a corrective to the premises on which authorities base policies toward drugs.

Drug Addiction Control in the USSR

E. A. Babaian

Drug addiction is not a serious social and health problem in the USSR. This is due to general social and economic conditions as well as to the specific steps taken by the Soviet Government. A major obstacle to the development of drug addiction in the USSR is State ownership of the enterprises producing narcotic drugs and of the pharmacies dispensing such drugs to the public. Well-organized frontier and Customs services virtually preclude the smuggling in of drugs from abroad.

In the USSR, addicts mainly consist of chronically sick or seriously disabled persons who have been regularly taking narcotic drugs such as morphine and codeine because of their primary illness and have become addicted. There are isolated cases of the use of narcotic substances obtained from some wild varieties of hemp. During the last decade, there was not a single case of heroin addiction in the USSR, and the production and use of this drug has long been prohibited in the country. There is practically no cocaine addiction. Soviet Law prescribes severe penalties for infringement of the regulations governing the storage, preparation, sale, and use of narcotic substances.

All medical establishments and

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pharmacies are required to report any addicts visiting them for the first time to psychoneurological establishments (clinics) in the addicts' place of residence so that they can be registered and receive the necessary treatment. In this way, addicts can be detected promptly and treated in the early stages of addiction. The practice of drug "allowances" for addicts has long been prohibited.

Health authorities take special steps to organize a system of combined treatment for addicts, who receive care in the appropriate health establishments. Addicts remain under the observation of the clinic for a long period after their course of treatment has been completed.

In January 1970, the United Nations Commission on Narcotic Drugs held its First Special Session, the agenda for which contained only one item—tht questions of a new international protocol on psychotropic substances, such as the hallucinogens, which are not yet under international control. The representatives of many countries expressed grave concern at the spread of addiction to these substances in their countries. In the Soviet Union, not a single case has come to light of addiction to LSD and other derivatives of lysergic acid, amphetamines, and other psychotropic substances. This is mainly attributable to the favorable social conditions which have been established in our country.

For preventive reasons, the Ministry of Health of the USSR categorically prohibited the administration of LSD and other derivatives of lysergic acid to human beings as far back as 1967. The Expert Committee on Drug Dependence of the World Health Organization often discusses the problem of road accidents resulting from the use of hypnotic and psychotropic substances by drivers. Not a single case of this type has been recorded in the Soviet Union. For prevention, however, the Ministry has issued a special order, drawing attention to the need for great care in prescribing these substances for drivers and persons responsible for vehicles.

Although the Soviet Union has no problems of addiction to psychotropic substances or hallucinogens, nevertheless, in the interests of prevention and of the welfare of mankind, it has consistently taken the position that this group of dangerous substances should also be brought under the strictest international control.

Drug Addiction in Israel

EXTRACTED FROM THE "PROCEEDINGS OF THE SYMPOSIUM ON DRUG ADDICTION IN ISRAEL" (JERUSALEM, 1ST AND 2ND JUNE, 1970). PUBLICATION OF THE INSTITUTE OF CRIMINOLOGY, NO. 17, JERUSALEM, 1970.

Israel stands at the crossroads of the drug trade, situated between the great producers, such as Lebanon and Syria (cannabis), Turkey, Afghanistan, and Persia (opium), and the main consumers—Egypt, Sudan, North Africa, and the Arabian peninsula.

After the Six Day War of 1967, large numbers of volunteers and students arrived from countries in which cannabis was popular but expensive,

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and discovered that in Israel it was cheap and easily available, particularly since trade barriers with the Arab States were reduced. From 1966 to 1968, the number of suspected offenders more than doubled and the mean age declined. The increase was mainly among western Jews and non-Jews, although even in 1968 the majority of offenders still were oriental Jews.

Israel is faced with many problems in the treatment of narcotic offenders as society's attitude to drug taking has changed greatly in recent years. Before 1967, the normal offender took drugs as a facet of his self-identification as an outsider; drug taking was an overtly antisocial act and a symptom of general antisocial orientation which was likely to lead to criminality both for its own sake and as a means to secure further supply of the drug. Now, however, there is a new type of drug user who is searching for a new identity and a new philosophy by means of experimenting with drugs; he is often the successful, intellectual university student.

The Dangerous Drug Ordinance has been in force since 1936. However, it fails to differentiate between cannabis and heroin, and LSD has not been added to the list of dangerous drugs; furthermore it does not distinguish between "possession," cultivation, selling, and smuggling of drugs. The law provides for short periods of detention in hospitals for persons whose addiction caused them to commit an offense, but this law cannot be implemented, since no such hospitals exist. Criminal responsibility may be negated according to the Criminal Code Ordinance if the drugs can be said to have induced a state of insanity or to have deprived the accused of "the criminal intent" to commit the particular offense. An amendment to the law provides mandatory penalties for supplying narcotic drugs to children. In the last few years prison sentences for narcotic abuses have declined, and fines and suspended sentences have increased.

New legislation to bring about greater refinement of the law is being considered, but complex problems are involved. If penal sanctions are applied in full force there is the danger of driving the drug takers closer to the criminal underworld; on the other hand, to legalize drug taking and to supply drugs through medical centers would imply not only society's condoning of such practices, but would fly in the face of international conventions. Certainly some differentiation has to be made between the various drugs; LSD must be added to the dangerous drug list, and a distinction must be made between pusher and user.

The Dimensions of Drug Dependence in the United Kingdom

D. V. Hawks

Any account of the epidemiology of drug dependence in the United Kingdom inclines to give emphasis to the narcotic problem. It needs to be recognized that the "drug problem" in the United Kingdom involves multiple drug abuse and that the curtailment

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of a particular epidemic is likely to be attended by the increased abuse of another drug.

Narcotic Abuse

Before 1950 the number known to be abusing narcotic drugs was relatively stable, varying between 400 and 600. Those involved tended to be middle-aged and a disproportionate number were drawn from the medical and paramedical professions. In most cases addiction had a therapeutic origin and the drug involved was usually morphine.

The first significant change in the situation occurred after the Second World War, when there was an increase in the number of seizures of cannabis made by H.M. Customs and Excise. The first postwar annual report acknowledged that there was a small traffic in cannabis, largely confined to two black groups, with black seamen being the principal importers. A further "considerable increase" was noted in the following year, and the same source was implicated. By 1950 it was clear that the traffic in cannabis was of greater importance than the traffic in opium, and the total number of persons prosecuted for offenses involving cannabis has risen ever since. While the use of this drug continued to be linked mostly with the nonwhite population, in 1950 it became apparent that cannabis was also being used by the indigenous population.

In 1958 the ratio of male to female addicts known to the Home Office was 1:1.2. Prior to 1958 the ratio had been 1:1. In 1968 the ratio was 3.5:1, reflecting the consistent trend over the previous 5 years for males to increasingly predominate. As the average age of known addicts has declined and the number of cases of nontherapeutic addiction has increased, the ratio of males to females has increased until it approximates that reported for American juvenile addicts. Whereas in 1959 there were no heroin addicts under the age of 20, in 1968 they constituted 32 percent of the total. A similar increase occurred in the 20–24 age group while those over 35 have stayed numerically the same.

The number of heroin addicts whose dependence had a therapeutic origin has stayed remarkably stable over the entire period, while those whose addiction was nontherapeutic have shown a marked increase. Of the 1306 new addicts notified in 1968, all but two were of nontherapeutic origin. This tendency has paralleled the decreasing significance of the "professional" addict, the medical and paramedical addict. Whereas professional addicts constituted 31 percent of the total known addicts in 1950 and 14 percent in 1960, they represented less than 2 percent of the total in 1968.

Changes in the pattern of drugs used have largely followed changes in the origin and composition of the addict population. Whereas in 1958 only 14 percent of known addicts used heroin compared to 46 percent who used morphine and 26 percent who used pethidine, in 1968 the percentages were 80 percent heroin, 7 percent morphine, and 4 percent pethidine. This marked change reflects the younger, nontherapeutic addict's preference for heroin. Of current concern is the increasing tendency for methadone to be the principal drug of addiction. In 1958 only 11 percent were dependent on methadone; in 1968 the comparable percentage was 17 percent. Preliminary figures for 1969 indicate a further percentage increase.

The great majority of heroin addicts in the United Kingdom have

been of British nationality. A number of studies of largely unnotified heroin users have confirmed the view that the heroin problem in the United Kingdom largely concerns the indigenous population and that minority ethnic groups are not, as yet, disproportionately represented as is the case in the United States of America.

While the misuse of illicitly obtained narcotics has spread beyond London, it remains the case that London is the main source of supply and the majority of known addicts are within its boundaries. Addicts tend to congregate in London where illicit supplies are more plentiful and where the society of other drug users guarantees continued fulfillment of their needs and support which the "junkie" subculture supplies.

There have been few systematic attempts to inquire into the actual material circumstances of those addicted, though minority groups are not disproportionately represented. Some studies actually show a better than average socioeconomic background. It is to be expected that roughly half of any sample studied will be living with their parents and, thus, to some extent supported by them, and that the remainder are at least eligible to receive welfare benefits. There is little evidence of heroin addiction in the United Kingdom being nurtured by material poverty on the one hand or producing it on the other. However, those notified in the 1960's were often construed as "middle-class dropouts" whose addiction, far from being explicable in terms of some material disadvantage, appears to have been motivated by the deliberate rejection of middle-class norms and opportunities. There is some recent evidence that this "exclusiveness" no longer characterizes the addict population.

A basic tenet of the British "solution" has been the assumption that by providing addicts with a licit supply of narcotics one avoids the growth of an illegal market such as has occurred in the United States and Canada. It is often inferred from this that as a consequence, United Kingdom addicts have not engaged in delinquent activities before they became dependent nor do they embark on a criminal career once they are in receipt of a regular prescription. However, approximately one-half of known addicts commit criminal offenses before they are registered. While it is extremely difficult to distinguish between drug-related and unrelated offenses after addiction has been notified, a significant proportion of registered addicts continue to commit criminal offenses which are not obviously related either to obtaining or being in possession of drugs. The varying estimates deriving from different studies suggest that in some cases narcotic dependence is an extension of previous delinquent behavior, whereas in others it occurs without there being evidence of previous criminality. However, delinquency in itself does not provide a sufficient explanation of drug dependence since the latter continues to be a minority manifestation.

The mortality among United Kingdom addicts is extremely high, estimated to be 28 times in excess of the comparable age group in the general population. The mean age of death among nontherapeutic addicts during the periods 1955–1964 and 1965–1966 was 30.3 and 24.8 years, respectively. While the declining age of death reflects the decreasing age of those addicted, mortality tends to be higher among younger addicts. While the death rate among female addicts tends to be less than that

among males, it is five times in excess of the expected mortality rate. This extremely high mortality, over twice that of heroin addicts in New York, possibly reflects the higher doses taken by United Kingdom addicts and their use of other drugs in combination. While it is extremely difficult to discern intention in cases of drug overdose, the circumstances in a sufficient number of cases suggest that suicide is a significant accompaniment of narcotic dependence.

Admission to hospital for reasons related to drug dependence is common among United Kingdom heroin addicts. In a study of 100 consecutive male heroin addicts discharged from a London hospital, it was found that in the 2¼ years over which the patients were followed there were a further 155 admissions including readmissions to the same hospital. There were in addition 148 admissions to other hospitals including 95 to other mental hospitals. Apart from drug withdrawal, the most frequent reasons for hospitalization are the treatment of abcesses, overdoses, hepatitis and septicemia. In a study of 74 methylamphetamine injectors, the incidence of complications requiring medical treatment was higher among those who had also used heroin and highest among those who were currently using heroin. Despite the provision in the English system for the legal prescription of unadulterated heroin and the opportunity to supply disposable syringes and teach sterile injection practices which frequent clinic attendance allows, complications resulting from dependence are numerous and the resultant load placed on hospitals onerous. The number of complications treated in the casualty departments of general hospitals is increasing.

The current epidemic of narcotic dependence in the United Kingdom is of too recent origin for its long term prognosis to be ascertained, and any assessment of its short term outcome is likely to reflect the relative lack of adequate treatment facilities as much as the course of the condition. There are, however, some statistics available. In a study of 1272 heroin addicts who first became known to the Home Office between 1947 and 1966, 70 percent were still taking opiates in 1966 and, of those 293 not known to be taking opiates, 64 percent were either in a hospital, prison, or some similar institution. There had in addition been 89 deaths where the principal causes of death were sepsis, overdose, and suicide. The most detailed and long term followup study has been carried out on a group of 65 patients admitted to a provincial hospital between 1949 and 1960. Of those addicted to drugs under the Dangerous Drugs Acts, only 14 percent remained drug free when discharged and only 18 percent were able to continue their profession. The largest group was comprised of those who resorted to drugs for varying periods of time and in varying dosages since being discharged. Included in this group were a few patients who had been stabilized on regular doses of drugs and who appeared otherwise to manage their lives relatively satisfactorily providing that the drug was maintained.

Amphetamine Abuse

Amphetamines can be obtained on prescription from any doctor, though methylamphetamine in liquid form can only be dispensed by hospital pharmacies. While these drugs are not tabulated separately, a Parliamentary Bill providing for this possibility and their restricted prescription is currently under consideration. Studies of adolescent amphetamine users show

that members of this group misuse a variety of amphetamine preparations and typically substitute one for the other when supplies dictate this. While at any one time a particular drug may be favored, evidence suggests that any attempt to control its supply will be attended by the increased use of other preparations. Studies which have considered the chronology of drug use have consistently demonstrated that amphetamine and amphetamine/barbiturate mixtures are, with cannabis, the drugs most frequently taken first.

The legitimate use of these drugs is also inadequately documented, though there is some evidence that the total number of prescriptions for stimulants issued under the National Health Service has decreased in the last 6 years. A survey showed that approximately 500 people in a population of 250,000 were psychologically dependent on amphetamines. The majority of these were middle-aged women who had been originally prescribed amphetamines as treatment for depression or as appetite suppressants.

Barbiturate and Nonbarbiturate Hypnotic Abuse

The increasing use of barbiturates and their potential for misuse has for some time been a cause of concern. Their use by narcotic addicts is a more recent phenomenon. In the past 10 years there has been a marked increase in the number of overdoses with barbiturates. The suicide rate from barbiturate poisoning has more than doubled, added to which there has been a three-fold increase in the number of people treated in hospitals for poisoning.

While the absolute number of prescriptions for barbiturates and nonbarbiturate hypnotics under the National Health Service has increased over the period 1962–1968, their number as a percentage of the total has increased. The number of prescriptions for tranquilizers increased over the same period from 6.6 to 16 million. As this figure includes the phenothiazines it is impossible to infer an increase, if any, in the number of prescriptions for the barbiturate-like minor tranquilizers. These figures do not include private prescriptions and so represent a minimum estimate.

It is extremely difficult to estimate the extent of barbiturate dependence in the general population on the basis of several G.P. surveys carried out. It has been suggested that it might be of the order of 150–250 per 100,000 of the population. Informed reports from social workers, police, and hospitals, as well as drug users themselves, suggest that the use of barbiturate-type drugs has recently increased among young persons to the extent where it rivals the amphetamines.

Cannabis and LSD

Estimates of the number of cannabis and LSD users in the United Kingdom derive almost entirely from the number of offenses for possession of these drugs, a basis which involves the dubious assumption that convictions reflect use. If one assumes that for every conviction for possessing cannabis there are possibly ten or 20 people who are not convicted, the number of regular cannabis users in the United Kingdom would approximate 30 per 100,000 of the population; this figure would be doubled if occasional users were included.

A number of studies have described the student cannabis taker as constituting about 10 percent of the tertiary student population. Two studies found that students rarely used other drugs, except amphetamines. Those who used cannabis on only a few occasions were

not differentiated from nonusers. They did tend, however, to be more often enrolled in nonscience subjects. Those who had smoked cannabis had consulted a psychiatrist significantly more often, saw their general practitioners more often in the previous year, tended to be earlier and heavier users of both tobacco and alcohol, and reported being drunk more often. There was no relationship between multiple drug use and continued cannabis use. Of those who had given up smoking cannabis, the majority did so because they lost interest or moved away from the source. Except in a minority of cases, there was little evidence of cannabis assuming a significant role in their lives.

Estimates as to the number of people in the United Kingdom who have used LSD or other hallucinogens are based entirely on a few well-publicized but almost certainly atypical cases and the investigation of other drug users. It was found that 74 percent of a sample of heroin users had used hallucinogens at some time, of whom half had used hallucinogens at least weekly. Only 9 percent of the total had used hallucinogens at all in the last month, however, confirming an impression that among heroin addicts the use of LSD tends to be sporadic and self-limiting. Unlike the situation in the United States, the use of cannabis and LSD does not appear to be closely associated in the student population. Nor is there a significant tendency in the United Kingdom for LSD and other hallucinogens to be used therapeutically as abreactive agents.

Some Tentative Generalizations

Perhaps the only valid generalization which can be offered is that the problem has assumed a bewildering variety of forms over a comparatively short period of time. A constant feature of all the trends has been a tendency for addicts to abuse a variety of drugs. Under these circumstances, measures—whether therapeutic or legislative—designed to cope with the abuse of a particular drug are likely to prove ineffectual in the absence of attempts to deal with the total situation. Recent evidence suggests that the success with which the total amount of heroin prescribed has been reduced has been attended by an increase both in the mount of methadone prescribed by general practitioners and the amount of barbiturates misused.

The British system of treatment centers was predicated on the asumption that by supplying heroin legally to addicts, a black market would provide uneconomical. It was also assumed that by restricting the right to prescribe heroin to certain designated doctors the overprescribing which characterized certain general practitioners would be avoided. In making this assumption it was supposed that the doctors working in treatment centers would be both more experienced and better able to assess the true needs of the addict. On the whole these two assumptions appear to have been fulfilled.

The illicit market in heroin is probably supplied by overprescription occurring in some cases. The amphetamine market is wholly supplied by thefts from wholesale and retail chemists, though overprescribing is also a factor. While cannabis tincture is prescribed by a limited number of doctors the illegal market in cannabis is largely supplied from illegal imports. Barbiturates are mainly obtained from legal prescriptions—if not to the addict himself at least to the primary source, though there is evidence that thefts are also increasing.

Consistent with the view that most illegally obtained heroin is supplied by

the National Health Service is the finding that potential addicts are initially supplied heroin by their associates and only rarely by someone unfamiliar to them. Studies of populations using different drugs have confirmed this tendency for initiation to occur between familiar associates.

The lack of relevant normative data precludes inferring causal significance but it would appear from some studies that the addict population is characterized by a high incidence of familial separation and disturbance. One study found that 41 percent of their methylamphetamine users had some definite or tentative evidence of neurotic disturbance in childhood. Slightly less than half had suffered parental bereavement or separation before they were 16 years old. Sixty-five percent had not taken any examination while at school, and of those who pursued further education the majority had discontinued this prematurely. Consistent truancy from secondary school was reported by one-half of those interviewed. The degree of family pathology as assessed in terms of the frequency with which drinking problems, criminality, drug abuse, and psychiatric illness in the parents and siblings was mentioned, appeared excessive. Among the addicts themselves a significant number had been heavy users of alcohol in the past. Those methylamphetamine users who had also used heroin were more likely to have been separated from their parents before they turned 16 than those who had not used heroin.

Conclusions and Recommendations

It is frequently claimed that there is no typical addict and no descriptive categories equally applicable to all addicts. Lacking a set of categories which can be universally applied to all addicts, or even addicts using a particular drug, it is at least arguable that any universality which exists is to be found in the relationship between the variables rather than in the predominance of the variables themselves. While the age at which drugs were first used may vary considerably depending on the population studied, it might nevertheless be shown that in any of the samples the younger the age of onset the poorer the prognosis and the greater the diversity of drugs used.

Progression beyond the present demographic approach to research in this area will require that sufficient numbers be included in the sample to allow their subdivision into a number of preconceived categories which can then be run against other variables. If research into the cause of drug dependence is to assume other than its present demographic form, its design must be motivated by theoretical considerations. Data which are gathered for wholly empirical ends can rarely be lent, post hoc, a theoretical rationale. If it serves no other purpose, the theoretical model at least determines the selection of variables and directs their subsequent analysis. Unravelling problems like drug dependence and delinquency involving social, personal, and economic factors requires a strategy which few individual researchers can adopt. The intractability of the causal problem is due not so much to the lack of individual research projects as to the lack of any research of sufficient dimensions to encompass the complexity of the problem.

Marihuana and Health—The American Cannabis Research Program

Robert C. Petersen

It is now little more than 3 years since the National Institute of Mental Health launched an intensive program to examine the implications of cannabis use for the American people. When our program began it was, of course, theoretically possible for an American researcher to do work with cannabis. However, permission to do work was difficult to obtain and access to a reliable source of supply of well-specified natural material was at least as difficult. Because the material available was typically confiscated in connection with drug arrests, it varied widely in potency and little was known about its biological history or the presence of possible adulterants. Another early obstacle to progress was the general lack of enthusiasm shown by university and college administrators toward the would-be researcher. The legal hurdles to obtaining permission to do such work were also formidable enough to discourage all but the truly dedicated.

One of the most serious early problems is the extreme variability of the material itself. What is commonly called marihuana in North America consists of a mixture of crushed leaves, flowers and often twigs of the Indian hemp plant, *Cannabis Sativa*. Unfortunately, the resulting mixture can vary from being virtually psychoactively inert to clearly hallucinogenic, depending on the dosage and quality. The obvious limitations of confiscated supplies led us in 1968 to contract with a southern university to grow research quantities of a number of varieties of *Cannabis Sativa* chosen for their drug content.

As early as 1964, research was supported under NIMH aegis to effect a synthesis of the tetrahydrocannabinols, since extraction from the natural material was both inefficient and costly. It was not until 1966 that Raphael Mechoulam, working in Israel, was able to accomplish this objective. In 1967, Petrzilka published a method for synthesizing THC and in 1968 the Institute contracted for the production of research quantities of both delta-8 and 9-THC for distribution to the research community. Although delta-9-THC was thought to be the principal psychoactive ingredient in cannabis, the obvious desirability of providing a liquid preparation containing all or most of the chemical constituents of the natural plant led us to also develop a representative extract from the natural plant. Radioactively labeled materials were contracted for as well since they were badly needed to study the metabolic pathways of the material and its biological transformations.

The discrepancy between the well-standardized materials utilized in laboratory research and those employed by the typical user, whether in the United States or abroad, creates obvious problems of interpretation. Moreover, heavy users of marihuana, at least in the United States, are likely to make use of other hallucinogens as well. Studies of actual users in the United States are further complicated by the fact that use is illegal and fre-

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quently involves the threat of serious penalties. The development of coding methods which permit individual questionnaires to be compared or matched over succeeding intervals and yet not positively identified with a particular individual has been helpful.

Another problem in dealing with users in a natural setting is distinguishing between drug effects and user characteristics which antedate drug use. Although a loss of conventional motivation often called "amotivational syndrome" has been widely reported in connection with heavy cannabis use, it is not clear to what extent this preceded drug involvement. In America there are substantial numbers of young people who form a kind of counter culture and who pride themselves on a rejection of more conventional motivation. An NIMH-sponsored study of so-called "hippie" residents of the Haight-Ashbury section of San Francisco provides some support for this interpretation. Many were found to have shown early and persistent evidences of alienation and lack of conventional motivation much before they became involved in a drug culture. And it is not unreasonable to assume that cannabis use and preexisting personality orientation combine to further exaggerate and intensify a feeling of alienation. It is possible that more subtle effects of drugs like cannabis may well go undetected because of the relative insensitivity of current measures of intellectual functioning and performance. A high degree of motivation may well serve to compensate for a deficiency that might be evident under more typical conditions of functioning. Clinicians are also commonly aware that brain damage clearly established by other criteria may not result in obvious intellectual deficit.

Lacking a readily identifiable long-term user population in the United States, it is necessary to resort to overseas populations to study the implications of chronic use. Despite the fact that there are many cultures in which cannabis use is common, it remains in most nominally illegal and even in those in which it is legal there is frequently some degree of social opprobrium associated with such use. Thus, the problems of obtaining adequately representative samples of drug users and matching nonusers are formidable. Since cannabis is frequently consumed in combination with tobacco or other material, it may be difficult to separate effects that can be attributed primarily to cannabis.

Most long-term retrospective studies of drug use suffer from the usual problems of inadequate retrospective reporting. The quality and quantity of the drug consumed may have varied considerably over time, depending on such factors as income, type of work performed, customs within one's subgroup, etc. Moreover, in most cultures it is the poor who are typically the long-term users. Thus, seriously deficient nutrition which may obscure drug effects that might be expected to become apparent in later years may not be obvious.

Detailed clinical study of relatively large numbers of users is not generally possible. When an attempt is made to employ comparative measures of effects on intelligence cross-culturally in a culture quite different from ones on which they are standardized, serious problems arise. Perhaps the most serious problem in our overseas research is that the cultural context of drug use itself is of fundamental importance in determining some of the implications of such use. We know that in Jamaica so-called "psychedelic" effects from cannabis are neither expected nor

sought and in consequence are not experienced. The drug is used in a manner somewhat analogous to the American coffee break as an adjunct to work and so as to make onerous activity more bearable. This is a markedly different approach from that which characterizes typical American or European recreational use of marihuana or hashish. Since no other culture replicates our own exactly, the degree to which the two cultures differ may make any translation of the psychosocial implications of data hazardous and/or misleading. In the end, the most useful information that may be derived from our cross-cultural studies may be a greatly improved understanding of those factors which serve to effectively control drug use and to prevent its abuse.

No discussion would be complete without commenting on the changing and inconsistent attitudes toward drug use in America. It is probably safe to say that no people have ever quite so thoroughly embraced the faith that relief from virtually all human ills is only a swallow away. While many are consuming beverage alcohol with obvious enthusiasm, they are often rather moralistic about it. Most clinicians learn early that it is far more useful to ask patients how much they drink rather than whether they drink, the latter frequently met by a denial. Coffee is a beverage generally reserved for adults in American life and yet we freely permit youngsters to consume cola drinks containing appreciable amounts of the same caffeine as coffee. Cigarettes have been clearly demonstrated to be quite hazardous; yet their use is tacitly encouraged. In some school systems, for example, smoking areas have been set aside for teenagers to permit them to smoke during the school day.

At the same time that adults are highly moralistic toward marihuana, many of our youth show equal evangelical fervor in embracing it as a drug whose time has come. In this atmosphere each new research finding, however dubious, is seized upon with eagerness by one side or the other. At the same time that this glare of publicity has been an impediment to scientific work, it has, of course, resulted in considerable public support for the systematic research required and has helped to generate increased scientific interest.

Highlights of the Current Program

The Institute is currently supporting some 66 marihuana-related projects at a total cost of nearly 3 million dollars per year. There is little question that marihuana, second only to alcohol, is at present the most widely abused psychoactive drug in the United States. In an effort to adequately assess the extent of use, particularly by teenagers and young adults, the Institute is supporting a number of surveys and longitudinal studies of youthful populations. Preliminary results from a national survey of freshmen and juniors in colleges and universities indicate that one in three students have tried marihuana at least once in their lives. A more recent survey conducted under the auspices of a popular magazine reports that well over half of the sample surveyed have tried marihuana with nearly two out of five college students having used the drug ten or more times.

One county which has had relatively high rates of drug use among its high school population has now conducted the same type of student survey for 4 consecutive years. Students were questioned anonymously about their drug using habits during each preceding academic year. Last year it

was noteworthy that at the junior and senior high school level almost every rate of usage for all drugs surveyed (including alcohol and tobacco) was generally less than during the year before. Preliminary results for the school year ending in 1971, however, now show a marked increase in use for all of the drugs with the exception of tobacco. Alcohol use which some have suggested might be replaced by marihuana use, showed the largest apparent increase.

The relationship of drug use during college to objective indicators of academic and career achievement and to subjective feelings of self-fulfillment is being studied. Changes in career plans, aspirations, and actual achievement during the college years and in the years immediately following graduation are being studied. Personal and social adjustment over time, including feelings of satisfaction and self-fulfillment are also being examined. In an effort to get at some of the early developmental factors in drug use, these researchers are also asking questions about the general availability of drugs in the home and the extent to which family members resorted to their use. Other recently funded research projects are designed to explore student drug use and its personality correlates, including the user's self-image throughout his college years, as well as the relationship between drug use and student values over time.

The diffusion of drug use to increasingly younger age groups has resulted in approval of a grant to do a longitudinal study of drug-taking, attitudes toward drug-taking, personality factors, and academic performance among students from grades 6 through 12 in 33 schools in the Boston area. It is hoped that this study will yield useful information on some of the factors that play a role in determining later use of a range of drugs. Because we are also interested in the ways in which young people receive information about marihuana and the degree to which the information and the source of it influence actual behavior, we are supporting work concerned with that aspect.

Chemical and Biochemical Studies

While marihuana contains many ingredients, the tetrahydrocannabinols (THC) are believed to be the principal psychoactive ingredients. Until 1968, only small quantities of natural and synthetic marihuana materials were available; therefore, a long-term program to develop its own supply of high-quality marihuana and pure synthetic tetrahydrocannabinol was launched by NIMH. This program has now developed sufficient quantities of the natural and synthetic material to permit large-scale research in NIMH supported laboratories and to supply independent researchers attempting to assess the effects of marihuana usage. To date, the NIMH has supplied natural and synthetic cannabis preparations to nearly 300 investigators.

Contract support has had as its objectives: (1) maintaining a research supply of natural and synthetic materials in both radioactively labeled and unlabeled forms; and (2) conducting preclinical and clinical studies of long-term use of marihuana. Our present emphasis is on repeated administration and exploring the chronic implications of use both in animals and humans. In the near future, studies of marihuana use in combination with such commonly used drugs as alcohol, caffeine, and nicotine will be emphasized.

A wide range of bioanalytic studies is currently underway either under

contract or grant support. Such studies include the study of cannabis smoking to elucidate which compounds of the cannabinoid class are inhaled by the smoker and metabolic studies of cannabinoid compounds in marihuana and in marihuana smoke, the ongoing analysis of marihuana and marihuana-related materials to insure adequate quality control, and the chemical study of marihuana constituents by the investigator who first synthesized delta-9-THC.

Various aspects of the mechanisms of action and metabolism of marihuana and THC are currently under investigation, all designed to better elucidate this complex question. These include the study of the excretion pattern and metabolic pathway of THC using radioactively labeled material, special emphasis on the THC level found in adipose tissue which may help explain the tolerance and "reverse" tolerance phenomenon which have been reported, and the study of in vitro metabolites of THC and crude marihuana in microsomal plus supernatant fractions from human liver. The effects of THC and its metabolites on the uptake, binding, release, and biodegradation of biogenic amines in the brains of laboratory animals are also being studied.

Another group of studies is concerned with physiological and behavioral effects of marihuana and related substances in animals. Two studies are specifically focusing on the effects of the drug on sleep. One of these, using rats, is studying the effects of delta-8 and 9-THC, as well as a cannabis extract upon sleep patterns as measured by electroencephalography. The investigator is attempting to elucidate the effects of single and repeated doses of these agents and is looking for the possible development of tolerance to sleep effects and a compensatory rebound phenomenon. A second study is comparing the effects of marihuana with morphine on EEG patterns and REM sleep.

Animal models are also being employed to study the effects of THC on competitive and aggressive behavior. In one such experiment these effects are being examined on the social behavior of rats competing for food, sexual partners, and escape from a water tank. Another worker is examining the effects of marihuana on shock-elicited aggression in rats. The effects of the marihuana dose level, base line level of aggression, and the number of days of marihuana pretreatment are all being considered. The long-term effects of chronic marihuana doses on behavioral schedules of reinforcement in chimpanzees are also currently under investigation.

The effects of graded doses of marihuana as compared with THC, LSD, and scopalamine on recent memory in rats is being studied using electrophysiological correlates of the behavior patterns involved. It is hypothesized that marihuana disrupts the hippocampal systems underlying recent memory.

Any evidence of marihuana-produced effects on the reproductive processes of animals would have great potential significance for humans. Several NIMH-supported grants are focused on this important issue. One of these found that high maternal doses of THC caused marked neonatal mortality in rat pups but that this was due to insufficient maternal lactation rather than any evidence of teratogenesis in the offspring. The offspring showed normal growth and there was no generalized stunting although litter size was decreased at higher dosages. Dosages involved were higher than

normal human dosage. One project is a contract to determine possible teratogenic effect using a range of doses of both natural and synthetic material. Another study is attempting to obtain a fundamental understanding of the possible morphological, biochemical, and physiological alterations produced by the cannabinoids during pregnancy.

Human Studies

A considerable range of human studies of cannabis and its acute and chronic effects is currently being supported. Two projects are specifically focusing on the effects of marihuana on respiratory function. In one the investigator is attempting to determine the effects of smoking the drug on such variables as intracardiac pressure, vascular resistance, cardiac output, ventricular function, airway resistance, lung volumes, and diffusing capacity of the lungs in both dogs and man. He will also try to establish whether or not regular users experience more frequent pulmonary infections than nonusers, and, finally, the effect of marihuana on alveolar macrophage function. A second study is examining the effects of smoking on pulmonary function and exploring possible selection of testing procedures for field studies.

There has been some discussion of the degree to which marihuana users can learn to compensate for its effects on a range of performances. A recently approved study is investigating whether pharmacologic tolerance develops to the behaviorally disruptive effects of smoking the drug. Observers have repeatedly commented on the role of marihuana in heightening suggestibility. One of our projects involves the systematic study of the effects of marihuana as compared to THC and alcohol on suggestibility and hypnotizability of college students.

Because of the particular importance that driving assumes in the United States we developed an early interest in the effects of cannabis use on automobile driver performance. Two major studies are attempting to systematically examine possible driver impairment. One of these makes use of an elaborate driver simulator that also demands shifts of attention to a subsidiary task. Another examines the drug's effects on driving performance under standardized driving conditions.

Recently, the Institute contracted for clinical studies to systematically examine the effects of a range of oral and smoked doses of natural and synthetic material for periods of up to 30 days. This work will determine effects in adult males with emphasis on pharmacological action, behavioral effects, toxicity, and possible development of tolerance. Other ongoing studies are investigating the clinical pharmacology of cannabis in man with special emphasis on neurophysiologic reactions to intoxication and the longer-term chronic effects on perception, mood, and affect.

The area of greatest interest to scientist and laymen alike is probably that of long-term chronic implications of use in man. Unfortunately, this has been and is likely to continue to be the area in which definitive research is most difficult. Some of the difficulties are: problems of retrospective reporting, cultural differences, limited sample sizes, multiple substance use, insensitivity of measures, and possible impact of nutritional deficiencies. At present the NIMH is supporting two major studies and actively considering several more.

One of our overseas studies is in Jamaica; the other in Greece. Both are studies of long-term cannabis users. In Jamaica the material consumed, al-

though called ganja, more closely resembles marihuana of similar quality to that used in America. The Greek users, by contrast, are heavy consumers of hashish, which is several times more potent than typical American marihuana. So-called ganja use in Jamaica has been widespread among the lower class for many years. Quite apart from its typically work related use, it has long been a part of folk medicine. In Jamaica a systematic attempt is being made to place cannabis use in its psychosocial context.

Out of the much larger sample being interviewed as part of the Jamaican anthropoligcal field work, a smaller, although representative, sample has been chosen for detailed in-hospital examination. During their 5 day stay, the user and nonuser groups are individually studied along many lines, including the use of sleep EEG's, chromosomal assays, and detailed psychiatric and psychometric examination.

The Greek study is more in the nature of a pilot effort to study heavy hashish consumers matched with a sample of family members who are nonusers. The initial sample is by no means random but rather represents a group of men who are relatively heavy users and for whom baseline data is available on the basis of military service during World War II. In addition to other measures, unusually careful EEG examinations are being conducted and will be subjected to computer analysis.

Obviously, neither of these studies, or for that matter any other single study, is likely to overcome all of the problems which I outlined earlier. Each of necessity involves relatively small samples which may obscure differences that might become apparent were we able to conduct large scale epidemiological projects. Moreover, there are many problems related to measurement and to the specific cultural context of use.

Accomplishments and Future Directions

The Federal program has achieved several major objectives: It has made cannabis research "respectable." It has made available in standard dosage forms of known potency a wide variety of natural and synthetic materials basic to continued research. Rapid advances by several laboratories receiving NIMH support have shown that delta-9-THC not only is rapidly broken down in the body but that some metabolites can be found up to 6 to 8 days after a single administration. This suggests a long duration of action and possible interference with other drugs. Toxicity studies performed during the past year have clearly shown a large safety index between the behaviorally active and toxic doses. Both subjective and objective effects of single dose, acute administration of cannabis and its active components have been largely elucidated. Long-term studies under relatively well-controlled conditions utilizing matched samples of nonusers are currently underway with more planned.

It is always a little uncertain what directions an emerging research program will take and especially so in a program influenced by rapidly changing patterns of mass behavior. Present overseas research efforts concerned with chronic effects of cannabis will certainly be expanded. As use increases in the United States, we hope to increase the number of longitudinal studies that will provide greater understanding of those conditions under which cannabis use remains relatively benign and those having more pernicious implications.

As use of marihuana becomes more

widespread, there is an obvious need to examine in greater detail the effects of the drug in combination with a wide range of drugs likely to be employed concurrently. At present, the rapid diffusion of use to both older and younger populations suggests the desirability of studying effects of both acute and chronic usage in a wider range of populations. From a still longer range viewpoint, it would be highly desirable to have better ways of monitoring human development from birth to death to determine those factors which may be causally related to a variety of behaviors—including drug use and abuse. The enormous cost of such an undertaking could be better borne if research questions dealing with many public health and developmental issues could be asked simultaneously. At present there is no way of detecting a rise in either spontaneous abortions or many types of birth defects since typically they go unrecorded. The relevance of such research to the widespread introduction of a new drug substance and its possible mutagenic, teratogenic, or carcinogenic properties is obvious.

There has been concern expressed that the present American use of low potency cannabis products may eventually be supplanted by the use of stronger natural or synthetic materials. Should prevalency of use ultimately lead to a decision to legalize it in any sense, it will be of vital importance to know what is the best "trade off" between potency of the material and its possible social and behavioral consequences.

Finally, the synthesis of various of the components of cannabis holds forth the potential that some of the properties of these materials may once again have potential therapeutic use in better standardized, more stable and possibly chemically altered forms.

Almost certainly our society would be better off without its need for mind altering drugs that lend themselves so readily to abuse. Yet, it is equally certain that man has used and abused one or another such substance from the dawn of history. It is the task of the drug researcher, along with the philosopher, to provide some of the ingredients vital to a considered decision by the individual and the society.

Marihuana Use by GIs in Viet Nam

EDWARD COLBACH

This paper provides a review of the professional writings of Army medical personnel, current as of October 1970, regarding the extent and effects of marihuana use among GIs in Viet Nam. I hope that this paper will provide some objectivity to an emotional subject. This hope is based on a number of assumptions. The first is that medical personnel really do have something to contribute, because they are scattered throughout Viet Nam at all echelons and have continually written about the problem. The second is that professionals are allowed to write without censorship. Generally there has not been and there is not now any censorship of professional writing about the marihuana problem in Viet Nam. The third assumption is that what a person writes for professional publication, where thoughts are carefully set down for peer review, inherently has more objectivity than what he might say to a newspaper reporter or before a television camera.

In May, 1965, the Army assigned the first clinical psychiatrist to Viet Nam. He stated that marihuana smoking by the troops was known to be occurring, but that it was seldom mentioned as a problem in the two places in which he had worked. Since then there have been five attempts by professionals to formally determine the extent of marihuana use in Viet Nam. The data have many inadequacies, but they are all there is on which to base any objective opinion.

In August 1967, in a study at a large troop replacement center, anonymous questionnaires filled out by 584 lower-grade enlisted men indicated that 30 percent had used marihuana in Viet Nam. Twenty-five percent of the positive responders had used marihuana 20 times or more. In October 1968, two other studies were reported. One researcher interviewed 50 psychiatric patients and gave anonymous questionnaires to 100 surgical patients. Fifty-six percent of the psychiatric patients admitted using marihuana while in Viet Nam; 30 percent stated they had used it more than five times. Among the surgical patients, 35 percent stated they had used the drug; 17 percent had used it more than five times.

In another study, anonymous questionnaires were given to 46 psychiatric patients and 46 general medical patients. Fifty-two percent of the psychiatric patients and 33 percent of the general medical patients admitted using the drug. A continuation of this study showed that 36 percent of 268 other general medical patients and 28 percent of 234 soldiers leaving the country admitted using marihuana while in Viet Nam.

In the fall of 1969, at the large replacement center at Cam Ranh Bay, 500 anonymous questionnaires were given to lower-grade enlisted men who were leaving the country. Preliminary results of the data analysis showed that 50 percent of the outgoing troops admitted using marihuana at least once in Viet Nam. About half of these had smoked marihuana 20 times or more.

In early 1970 anonymous questionnaires were administered to 1,076 air-

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borne soldiers. Preliminary data showed that 68 percent admitted to having used marihuana in Viet Nam, but only 31 percent had used it more than once or twice. There was a marked inverse relationship between rank and the extent of marihuana use.

On the basis of these studies, it appears that marihuana use in Viet Nam is common and seems to be increasing among lower-grade enlisted men in the Army. The two most recent studies indicated that from 25 to 31 percent of the troops are beyond the experimentation stage. While these figures are certainly significant, they are lower than those often put forward as representative by the mass media. It can also be said that marihuana use among officers and senior noncommissioned officers is not common.

Marihuana of a powerful variety grows well in Viet Nam and is readily available through local people. Furthermore, Vietnamese marihuana is often mixed with opium which gives it a more potent effect. Four of the five studies reported previously indicated that the marihuana smoker tends to have more disciplinary problems than the nonsmoker. There is some indication in the studies reported that those who become psychiatric patients tend to use marihuana more than general medical patients do. The idea of both transient and prolonged marihuana-associated psychoses, with paranoid and organic features, is well accepted in Viet Nam. Usually these psychoses occur in men with personality disorders who are heavy users. The psychiatric casualty rate in Viet Nam is increasing. Increasing drug abuse is one of the reasons set forth in speculation about causes of this rising rate.

The relationship of marihuana to acts of violence is an area of uncertainty. The drug certainly makes people fearful and paranoid, and the literature vaguely mentions some aggression and violence associated with its use. It would appear that the use of marihuana in Viet Nam is sometimes associated with aggresiveness, especially of a bizarre nature. The evidence in the literature is not nearly as incriminating, however, as the mass media would imply. While I was in Viet Nam I heard many "horror" stories in which marihuana was somehow implicated. In a full year, however, while heading a psychiatric facility serving 45,000 troops, I came across no case in which there was definite evidence that aggression directed toward the self or toward others could be attributed primarily to marihuana. Marihuana was associated with ineffectiveness, panic states, and psychoses, and these did not usually have any sensational content. Alcohol caused most of the trouble of a sensational variety.

To date the attempts to combat the use of marihuana in Viet Nam have been somewhat sporadic and have usually been left up to the initiative of the individual mental health worker. In preparing the review I spoke with numerous mental health personnel who had served in Viet Nam. The consensus was that marihuana had thus far not seriously affected the military mission and that there was no real sense of urgency about eliminating it.

Covert Drug Abuse Among Voluntary Hospitalized Psychiatric Patients

ARNOLD G. BLUMBERG, MELVIN COHEN, AUDRE M. HEATON, AND DONALD F. KLEIN

Altered behavior in psychiatric patients may be induced by covert drug ingestion with resulting diagnostic and therapeutic confusion. We define detectable drug abuse as the self-initiated administration of psychoactive drugs such as amphetamines, barbiturates, tranquilizers, and narcotics for which we have adequate urine-testing methods.

This is an initial report on the incidence of certain types of covert detectable drug abuse among young patients in an open-ward psychiatric hospital over a period of 24 months. We assessed covert drug abuse by means of routine analysis of morning urine collected at regular intervals, ostensibly for kidney-function tests. This paper will present the simple facts of detectable covert drug abuse.

A total of 332 patients between 15 and 25 years of age were studied. Sixty percent of the study group had a history of drug abuse prior to admission. Patients' covert drug use was followed by serial urine analyses for from 1 to 72 weeks, with an average of 27 weeks. The patients were allowed to go out on pass when their psychiatric condition warranted it, and there was free contact between patients. While selling or distributing abusable drugs was strictly forbidden and in every case where this was discovered the distributor was discharged from the hospital, it is known that illicit drug traffic did occur intramurally.

The urine analytic data were kept completely secret from all other members of the staff, and at no time were the patients or staff aware that the urine samples were being monitored for abusable drugs. A urine sample was requested before admission and at the time of admission on every patient. Urine samples were collected every Monday morning, since it was thought that the highest incidence of drug abuse would take place over the weekends.

The term "narcotic" was used to include morphine, heroin, codeine, cocaine, meperidine, methadone, and proxyphene. The basis of the method of analysis is the thin-layer chromatography of an ether extraction of the urine for barbiturates and the use of ion exchange resin-loaded paper for the extraction of narcotics and amphetamines. By this procedure a single dose of 100 mg. of secobarbital may be detected in the urine up to 5 days after its ingestion. Amphetamines cannot be found after 48 hours and narcotics cannot be detected more than 36 hours after a single dose. Thus the accuracy of barbiturate determination is almost three times as great as for other drugs, and accordingly, our comparative findings do not necessarily reflect the actual comparative incidence of drug abuse. So as to preserve the conditions of the study, no action was taken in any case where drug abuse was noted. All reported positive urine samples were checked against the nurse's medication records and, where the drug had been prescribed in the course of treatment, the positive findings were not counted.

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One hundred ninety-nine patients (60.0 percent) showed evidence of some drug abuse while in the hospital. One hundred seventy-six patients showed evidence of covert barbiturate use at least once; 80 patients had positive tests for amphetamines at least once; and 42 patients were found to have a positive test for narcotics at least once. No patient was found to abuse narcotics more than five times and no patient was found to abuse amphetamines more than seven times. Forty-six patients abused both amphetamines and barbiturates, and the remainder used barbiturates or amphetamines only. The choice of narcotic drugs broke down as follows: meperidine, 7 patients; morphine and heroin, 20 patients; codeine, 18 patients; cocaine, 5 patients; and propoxyphene, 6 patients.

Since the use of drugs appears episodic rather than continuous, repeated testing is necessary if offenders are to be detected. The chance of finding at least a single positive test for drug abuse rises sharply with increased testing up to ten tests, and then continues to increase gradually. Of the 236 patients who had ten tests or more, 166 showed a positive test for drug abuse. Barbiturates were found more than twice as often as amphetamines and almost four times more often than narcotics. This apparent preference may be spurious, reflecting the persistent detectability of barbiturates in the urine for much longer periods than other drugs. Despite the presence of drug abuse on an occasional basis, the finding of persistent drug abuse was extremely rare. The occasional use of narcotics was observed but in no case was associated with addiction. Morphine, in the form of heroin, was most commonly seen, with codeine next in popularity. It is possible that heavily drug-dependent patients left the hospital early and as such are not represented in our population.

Covert drug abuse was eventually demonstrated in 52 percent of patients whose urine on admission showed no evidence of drug abuse, as compared with 74 percent of patients whose urine was positive on admission. Thus the presence of a positive urine on admission statistically increases the likelihood of drug abuse in the hospital; but a negative finding on admission should not lead one to discount the possibility of subsequent drug abuse. A high index of suspicion is indicated in all young hospitalized psychiatric patients.

At present, no satisfactory method is available for detecting the use of a number of psychoactive substances such as marihuana, LSD, and glue. Alcohol could be checked by breath analysis or blood analysis. Our estimates of drug abuse based on the methods specified must result in underestimates if all significant drugs were to be considered.

It appears that young voluntary psychiatric patients employ abusable drugs frequently, in apparent disregard of the known treatment policy of the hospital. It is important to take this into consideraton in evaluating psychiatric treatment in the presence of apparently inexplicable mood shifts. Psychotropic drugs are often synergistic or antagonistic with abusable drugs. The sedative action of barbiturates is markedly increased by phenothiazines. Hypertensive crises may result when patients on a monoamine oxidase inhibitor take amphetamines. Pharmacological studies in psychiatric hospitals should be controlled by routine urine analyses to take into account the high probability of contamination of data by drug abuse.

Psychological Dependency on Steroids?

Chase Patterson Kimball

Although the relation of mood to corticoid and 11-desoxycorticoid drugs has long been investigated, the phenomenon of psychological dependency on these steroids is less well recognized. Many patients with chronic diseases have benefited markedly from the therapeutic use of steroids, either at times of exacerbation or with maintenance doses. Side effects have often complicated these treatments, but the agents have nevertheless been regarded as a boon to medical treatment. Although psychotrophic effects of corticoids and 11-desoxycorticoids have been incriminated in the precipitation or exacerbation of mental abnormalities and mood disturbances, less has been said about the possible and potential beneficial effects of these preparations on mood.

A practical problem occurs in managing the patient with a chronic disease receiving cortisone preparations: how much of a change in the patient's symptom is caused by an improvement of the disease under treatment and how much by the direct effect of the steroid on the psychological state of the patient?

Case Report

Mrs. A, a 62-year-old white widow, has lived alone since the death of her husband 10 years previously. Her three children have left home and are absorbed in their own families and lives. Her asthmatic condition had begun suddenly about the time of the menopause. For the first 10 years she had experienced episodic attacks every few years, usually after an upper respiratory infection. Several of these attacks required short-term hospitalization, to which she responded quickly. After her husband's death the attacks became more frequent and responded less dramatically to routine medications. Steroids were used more and more frequently, resulting in rapid remediation. Without a continued maintenance dose, however, symptoms reappeared within several days, and the steroid would be resinstituted. Several days after prednisone had been reintroduced, Mrs. A's symptoms would abate. On this regimen Mrs. A finally had to be hospitalized for the intercurrent effects of her medication, namely a collapsed vertebra and congestive heart failure. By this time Mrs. A had led an increasingly isolated and withdrawn existence. She found this "pleasant" and told of spending "whole days just thinking about nice things." As prednisone was withdrawn she developed a number of symptoms and showed signs of irritability and sleep disturbance. Finally, she began to develop wheezing and complained that she was unable to breathe, that she was having an attack. These symptoms subsided rapidly on treatment but recurred several days later, as soon as the treatment was modified. There were few objective signs, although her complaints became increasingly great as long as treatment was withheld. At these times Mrs. A's anxiety and agitation were as great as those frequently seen in acute asthmatic attacks. She responded rapidly to the usual therapeutic maneuvers, demonstrating marked diminution of anxiety and apprehension. Once the attack had subsided, however, she again expressed difficulty

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with her breathing, demanding that she be given prednisone. In-hospital attempts at psychological evaluation and therapy were unsuccessful. Mrs. A was subsequently discharged to a nursing home where, at the time of followup, she was living an essentially bedridden and vegetative existence.

Discussion

In addition to the real effect that the steroid preparation had on the end-organ and the physiologic dysfunction, this patient came to depend on the mood-elevating effect of the medication. The mood-elevating effect may be caused by several factors. In attempting to ascertain the basis of the subjective components, we considered the following points.

1. High doses of steroid have the potential of inducing delirium or an acute organic brain syndrome. In some individuals such a state leads to a blunting of affect, both anxiety and depression, and feelings of contentment, satiation, and well-being. As a part of this state, denial of symptoms frequently occurs, which may be to some extent real inasmuch as the physiologic dysfunction has decreased. As the steroid is tapered there is not only a waning of this state of delirium but also the resulting irritability or heightened, and sometimes distorted, awareness that is often experienced by individuals recovering from alterations in their cognitive processes.

2. The steroid may directly combat a depressed or agitated mood state, or both, that coexisted either antecedent or secondary to the underlying end-organ dysfunction. However, many of the processes for which steroids are used are considered by some to result from environmental stresses that give rise to intrapsychic conflict that gain expression both in somatic processes and disturbances in mood, frequently covert depressions.

3. The steroid may cause a state of euphoria or exhilaration by direct effect on steroid receptor sites in various parts of the forebrain and midbrain. Perception of this effect may be perceived by the individual directly or indirectly through an awareness of improved somatic functioning, automatic and skeletal.

4. Withdrawing steroids in itself may result in changes in the cellular activity of the brain in terms of direct interference in cellular metabolism or indirectly via the effect of withdrawal on other hormones affecting cerebral metabolism.

Whatever the exact cause of post-steroid depression and dependency, the clinician should concern himself with the objective measurement of a patient's increased symptoms at a time of steroid withdrawal. These symptoms may coexist with the patient's expressed desire to stop drug therapy and his or her stated feelings about the grief the steroid has caused him in terms of physical disfigurement. Psychiatric treatment of the condition may prove helpful to the patient and to the physician managing the associated physiologic dysfunction.

The concept that individuals given these preparations in lieu of other therapy may become dependent on them more for their mood effect than for the effect they had on the somatic disorder, must be kept in mind by all physicians prescribing these life-saving and life-threatening drugs. Further research is obviously necessary to define and clarify the issue of psychological dependency on corticoids in patients requiring these drugs for chronic diseases.

[^{3}H]Lysergic Acid Diethylamide: Cellular Autoradiographic Localization in Rat Brain

I. M. Diab, D. X. Freedman and L. J. Roth

D-Lysergic acid diethylamide (LSD), the most potent hallucinogenic compound known, produces a multiplicity of pharmacological actions in the central nervous system, which have been postulated to result from stimulation or inhibition of serotonin receptors and possibly to involve neurons containing norepinephrine. Distribution and localization of LSD in various organs and tissues has been measured in a number of laboratories. Metabolic studies of brain tissue in vitro have shown that the brain does not metabolize LSD; we assume that the cellular localization demonstrated by means of autoradiography is that of LSD. However, the presence of a metabolite circulating from the liver to the brain is not excluded.

The availability of [^{3}H] LSD with high specific activity makes it possible to study cellular localization with high-resolution autoradiography. Because [^{3}H]LSD may exist in tissue in free and bound forms, attempts to localize this compound in tissues by means of conventional histological procedures alone may lead to false results.

We used the technique of applying freeze-dried frozen sections to dried photographic emulsion developed for the study of diffusible substances; in conjunction with this technique we used a conventional histological method for cellular autoradiographic localization to differentiate between the firmly bound and free or loosely bound forms of [^{3}H]LSD.

For high-resolution cellular autoradiography, male rats were anesthesized with ether; the femoral vein was cannulated, and the animals were injected with heparin. The animals were allowed to recover from anesthesia for 2 hours; then they were injected with freshly purified [^{3}H] LSD tartarate and killed 5, 15, or 30 minutes, or 1 hour later by decapitation. We used a high dose of [^{3}H] LSD to reduce the necessary time of exposure. To determine whether localization of [^{3}H] LSD is dependent on dosage, lower doses would need to be used. The brains were removed as quickly as possible and bisected sagittally. The halves were cut coronally into sections rostrocaudally. The resulting tissue blocks from one half of each brain were mounted on brass holders with a thin layer of Tissue Tek, immediately frozen in liquid nitrogen, and stored in a liquid nitrogen refrigerator. Sections were cut and then freeze-dried in a cryosorption pump. The freeze-dried sections were stored in a desiccator over Drierite and later mounted on slides coated with photographic emulsion which had been previously dried for at least 48 hours over Drierite. For binding studies, tissues from the contralateral halves of brains were processed for autoradiography by a conventional histological procedure; they were fixed in 10 percent unbuffered formalin, dehydrated with graded concentrations of ethanol, cleared with xylene, and embedded in paraffin. Sections were cut on rotary microtome at room temperarure, mounted on slides, deparaffinized with xylene, and rehydrated through alcohol to water before being dipped into photo-

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graphic emulsion. After photographic exposure for 7 to 21 days at —15°C all slides obtained with both methods were developed for 3.5 minutes, rinsed in tap water, fixed with acid fixer for 5 minutes, and washed for 15 minutes. The slides were air-dried, stained with methyl-green-pyronin for 5 minutes, rinsed in water for 1 minute, covered, and examined under the microscope. To determine the time at which the highest concentration of [^{3}H] LSD appears in the brain, and therefore the proper time to take tissues for autoradiography, we made time course studies by means of whole-body autoradiography. The results showed that [^{3}H]LSD penetrates the brain within the first 5 minutes, reaches the highest concentration in 15 minutes, and then disappears 1 hour after injection.

The rat choroid plexus accumulated the highest concentration of [^{3}H]LSD. The concentration in the choroid persisted even after 1 hour, at which time the brain tissue was practically devoid of [^{3}H]LSD activity. The autoradiographs of freeze-dried sections of the choroid plexus exposed under the same conditions were more dense than similar sections prepared by the conventional histological method while the bound [^{3}H]LSD remained in the choroid epithelium.

Our studies demonstrate that [^{3}H]LSD is localized to only a few neurons within a given region. By using both the freeze-drying and the conventional histological methods, we could differentiate between free and bound LSD in the brain tissue. Free [^{3}H]LSD was present in pituitary, pineal gland, granular layers of the cerebellum, hippocampus, and choroid plexus. Firmly bound [^{3}H]LSD was present in specific neurons in the cortex, caudate nucleus, midbrain, and medulla, as well as in the choroid plexus epithelium. The high accumulation and binding of [^{3}H]LSD in the choroid plexus suggests that the choroid may be involved in the active transport of LSD to and from blood, brain, and cerebrospinal fluid. Also, the choroid plexus may act as a storage site for LSD to be distributed back to the brain at a later time.

The action of LSD has been linked to serotonin by a number of investigators. The amount of serotonin in the brain increases after administration of LSD; and LSD affects the spontaneous firing of certain neurons resulting in both excitatory and inhibitory actions. The presence of relatively high numbers of cells that contain serotonin in various regions of the brain suggests that serotonin has neuroregularly or neurotransmitter functions. The autoradiographic localization of [^{3}H]LSD occurs in neurons within regions reported to contain serotonin, suggesting the possibility that LSD is present in serotonergic neurons. The accumulation of [^{3}H]LSD on the periphery of neuronal cells in the midbrain and medulla suggest postsynaptic localization in granules containing serotonin. Our studies strengthen the hypothesis that the action of LSD in the brain is linked in someway to serotonergic neurons.

"Accidental Conditioning" with Chronic Methamphetamine Intoxication: Implications for a Theory of Drug Habituation

E. H. Ellinwood, Jr.

Experimental and clinical evidence with a wide variety of drugs indicates that there is a conditioned effect from repeated drug intoxication. The present series of experiments was not designed to elicit conditioning, but many individual observations indicated there was a conditioned effect following repeated injections of methamphetamine in cats. Behavioral data was either recorded on TV tape transcribed in detail, thus allowing for a reexamination of the conditioned effect.

Method—Forty-five cats were chronically administered methamphetamine for 11 days. Starting with 15 mg./kg. per day, the dosage was gradually increased 2 mg./kg./day to 35 mg./kg. Methamphetamine was injected i.p. twice daily at 8 a.m. and 4 p.m., allowing 16 hours between days for recovery and sleep. On TV recording days, the first dose was not given until 11 a.m., thus the observed period was 19 hours after the last injection.

Observations in nine cats were recorded on Days 1, 3, 11, 12, and 15 after the beginning of treatment. Each of these days except 12 and 15 was divided into 3 min. recordings taken in a preinjection control and at 10, 20, 30, and 90 min. after the first injection of the day. Behavior in 36 cats was observed and recorded on charts, but not recorded on TV tape.

Results—Profuse, viscous salivation was noted within 20 min. of a large dose of methamphetamine in about 70 percent of the cats injected; salivation usually continued for 20–25 min. In six cats after 3–4 days of methamphetamine injection, profuse salivation appeared when the cat was handled just prior to injection. Both cats had been scratched on the back to calm them before methamphetamine injection; subsequently when scratched on the back, they salivated profusely within 15 sec. This response extinguished slowly; salivation to scratching was elicited 8 times in a 2-week period after the last injection of methamphetamine. One of these cats saved for long-term studies still salivated 1½ months later, but not at 4 months. One year later, after only two subsequent injections, this cat again salivated when handled. Four other cats were repeatedly noted to salivate shortly after the experimenter entered their home cage room. Ten control cats injected with saline did not salivate at any time.

Most cats chronically injected with methamphetamine developed either a stereotype pattern of sniffing, looking from side to side, circling, or a grooming response. The stereotyped behavior patterns were initiated usually 10—20 min. after injection, increased in intensity and repetitiousness up to an hour, then decreased moderately; by 4–6 hours they stopped. Over a period of days, the pattern lost most of its general randomized movement and became an identifiable specific sequence. Although the behavioral sequence initially was a well-integrated looking, sniffing, or grooming response, movements were increasingly dropped out over time, often leaving only bizarre postural position move-

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ments. The cat's pattern appeared "compulsive" and he was nondistractible either by loud noises, catnip, or by physically moving him.

Because of the evidence of conditioning, the control period behavior of the nine cats recorded on TV tape was examined for evidence of preinjection behavior stereotypes. It was reasoned that simply putting the cat in the viewing cage in which it would be later injected might be an adequate stimulus to elicit the behavior pattern even though the cat was purposely left quietly in the cage for 10 min. prior to TV taping.

Although the control period patterns had none of the stimulated rapid repetition noted after injection, they appeared to be similar to the behavior-specific aspect of chronic amphetamine intoxication, which had been noted previously.

Discussion—In order to understand drug abuse problems, there is a great need to dissect out the variables involved in "fixing" the associated long-term patterns of behavior. It is generally known that these intensely fixed patterns are involved in the high relapse rate following drug withdrawal and hospitalization. Long-term conditioned effects are noted in addicts' observations that the recurrence of withdrawal symptoms can be elicited by certain key stimuli associated with previous drug use. Often this "automatically" results in initiating drug use and starting the need cycle all over again.

Results from this study indicate that there are different types of conditioned responses to amphetamine including conditioning of: drug-seeking behavior, amphetamine-induced autonomic responses, and amphetamine-induced behavior. The first type, self-administration of drugs, is generally regarded as an instance of operant conditioning. Conditioned drug-induced behavior could either be instrumental or classical conditioning. Conditioned salivation or other autonomically mediated responses usually have been unequivocally relegated to the domain of classical conditioning. The distinction between types of conditioning is important. More than likely both classical and operant conditioning are occurring during the chronic methamphetamine intoxication cycles.

The nature of the behavior elicited, as well as the nature of the reinforcement, would indicate that the process producing behavior during the period of intoxication following injection is similar to that producing superstititous behavior in the operant conditioning laboratory. Reinforcement from methamphetamine is a high level continuous one after injection and is not unlike the accidental contingencies paradigm in which the feeding (reward) mechanism operates at a regular rate regardless of the behavior. The continuous reinforcement model is in contrast with the usual concepts of each drug injection representing a single unconditioned stimulus with a subsequent reinforcement and preceding conditioned stimulus in a classical conditioning paradigm: An ongoing behavior or response accidentally reinforced is likely to be reinforced again if the initial reinforcement resulted in a high rate of responding. Thus, a behavior reinforced often enough to be emitted at a high level continues to be reinforced even though there is no specific cause or timelocked connection between the responses and the reward. Accidental contingencies lead to ritualistic behavior; for example, different animals placed in the same accidental contingency experiment would develop their own particular ritual, dependent upon the behavior during the initial reinforcement.

Tolerance to Opioid Narcotics: Time Course and Reversibility of Physical Dependence in Mice

D. L. Cheney and Avram Goldstein

Repeated administration of an opiate narcotic leads to the tolerant-dependent state. Recently, jumping behavior elicited by the opiate antagonist, naloxone, was shown to be a sensitive indicator of the degree of dependence. We have used this method to follow the time courses of the onset and reversal of dependence in various conditions of exposure to opiates. Male mice were used. All injections were intraperitoneal.

Physical dependence on morphine was produced by implanting a specially formulated 75 mg. morphine pellet, without anesthesia, in the subcutaneous tissue of the back. Animals so implanted display analgesia and vigorous running activity for less than 24 hours. Release of morphine from the pellet proceeds linearly for longer than the time of our experiments. Naloxone was used to precipitate withdrawal jumping. The ED (median effective dose) of naloxone was determined by the method in which five mice were injected and placed on the platform together. If a mouse jumped off within 10 minutes, the dose for its replacement was halved; otherwise, the dose for its replacement was doubled.

In untreated mice, no dose of naloxone would induce jumping, but in opiate-dependent mice, doses were effective: the smaller the degree of dependence, the higher the necessary dose of naloxone. The method was limited by the fact that naloxone itself, in dependent as well as untreated mice, causes convulsions at high doses so that a small degree of dependence could not be measured. After implantation of a morphine pellet, the sensitivity to naloxone became progressively greater for more than 3 days. The time course of the approach to a steady state is evidently measured in days. The process was completely reversible after removal of the pellet, and the return to normal was complete in 24 hours. A group of the same animals was reimplanted and the entire cycle of onset and disappearance of dependence observed. The high degree of dependence produced in the first cycle clearly had no modifying effect on the second cycle.

A single moderate dose of levorphanol produced a definite but small degree of dependence. The process is evidently initiated immediately, reaches its peak after about 8 hours, then wanes and disappears after 16 hours. Naloxone can elicit jumping 16 hours after a single injection although levorphanol has a short half-life in plasma and brain of the mouse.

We have shown here that in the mouse, a single dose of opiate produces a certain quantum of physical dependence, which dissipates entirely in about 24 hours. Frequent injections of levorphanol or implantation of a morphine pellet caused a cumulative build up of dependence. Injections at a long enough interval caused no build up of dependence, regardless of the duration of administration of the drug. The frequency of administration of a fixed dose controls the level of the steady state attained. Anecdotal evidence suggests a similar phenomenon in human narcotic addiction.

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Treating Acute Heroin Toxicity

GEORGE R. GAY, DAVID E. SMITH, AND ERIC I. GUTNICK

At the Haight-Ashbury Clinic every day we see at least one case of acute heroin toxicity, and we've yet to lose a heroin overdose patient who had a heartbeat when he arrived. Heroin overdose patients classically present with pinpoint pupils (unless anoxia has caused dilation), areflexia, marked respiratory depression, and a cyanotic, clammy pallor. Always suspect that a comatose patient with questionable or nonexistent history may be a heroin overdose case. Treatment to be effective must be prompt and proper measures are essential. Here, in outline form, is the method of emergency therapy we've developed at Haight-Ashbury Clinic:

1. Establish an airway.

A. Clean patient's mouth.

B. With the patient in supine position, tip the head slightly back. Grasping jaw at angles of mandible and at point of chin, draw his head back chin high, but be careful not to hyperextend. Pull the tongue forward. If oropharyngeal reflexes are absent, insert an oropharyngeal airway; if one isn't available, hold the tongue forward with your fingers.

C. Breathe for the patient if he is apneic —mouth-to-mouth, or mouth-to-nose, or use an Ambu bag if one is handy. Make sure air is entering his lungs, and listen for breath sounds with a stethoscope. Endotracheal intubation should be attempted *only* by a trained anesthesiologist or surgeon—and *only* when the patient has been previously properly oxygenated. You have 2 to 4 minutes to achieve intubation. If unsuccessful, resume mouth-to-mouth, oxygenating the patient well before attempting intubation again.

2. Quickly assess the cardiovascular system.

A. Check the pulse for rate and rhythm. Check precordial, femoral, temporal, or radial pulses. Don't be lulled into complacency by the strong full pulse of hypoxia, which may be premonitory to terminal arrhythmia and cardiac cessation. If the patient arrives with a heartbeat, you should be able to save him.

B. Begin external cardiac massage if heartbeat is absent, placing palms of your hands over the patient's lower sternum, depressing firmly 20 times per minute. Determine cardiac status with ECG. Institute appropriate action.

C. In severe cases of narcotics overdose, the patient's cardiovascular system may be so depressed that pulmonary edema develops. Intubation or tracheostomy—plus continuous positive pressure respiration—may be lifesaving.

3. Continue treatment for heroin overdose.

A. Give intravenously 1 cc. levallorphan tartrate or 1 cc. N-allyl-nor morphine hydrochloride. Giving these is a diagnostic test for narcotics overdose. If the patient has "collapsed" veins, as many addicts do, try the external jugular or the femoral.

B. Give IV 3 to 5 cc. doxapram hydrochloride. This respiratory stimulant usually has immediate effect, so be sure airway is open.

C. Stay with the patient until he is fully responsive. If he used a long-acting narcotic, such as methadone hydrochloride, he may lapse back into coma as the relatively short-acting narcotic antagonist wears off.

D. If the patient fails to respond, follow established emergency procedures to secure a route for administering IV fluids. If moderate to severe acidosis is suspected, administer sodium bicarbonate. Begin the administration of a glucose-electrolyte solution. Draw blood for chemistries. Search for nonoverdose etiology—evidence of trauma, blood loss, acute infectious process, and increased intracranial pressure.

E. If long-standing drug depression is suspected, be on guard for atelectasis or pneumonia. In any event, hospitalization, vigorous pulmonary therapy, and aggressive antibiotic therapy are indicated.

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Variations and Patterns in the Cultural Response to Cannabis Use

VERA RUBIN

This paper is addressed to the ethnohistorical and cultural context of cannabis use in Jamaica where a project is currently underway in collaboration with the University of the West Indies to examine the effects of long-term chronic use of cannabis. Intensive psychiatric, medical, and psychological examinations are being carried out on 30 users and 30 controls. These data will be correlated with background information derived from a series of extensive anthropological field studies being carried out in selected regions of Jamaica.

Cannabis, the source of hemp and of medicinal drugs as well as of potential hallucinogenic experiences, is a plant of Asiatic origin which has had several streams of diffusion and a variety of ethnobotanical uses in different time periods and places that have in turn generated a range of sociocultural beliefs and attitudes. Classified by Linnaeus in 1753 as Cannabis Sativa, the plant probably originated in the Himalayas and spread through Central Asia. Cannabis is reported to have been known in China since the Sixth Century B.C., and was used as an anesthetic in surgery. Cannabis was eventually introduced to Western Europe from China for the production of rope and fiber, although its use for homeopathic purposes as well as for hemp was known in early civilizations.

The multipurpose qualities of Cannabis Sativa and its pharmacologically active constituents were apparently not discovered by the Western world until comparatively late. The technical and commercial value of hemp as cordage was the principal factor in the cultivation of cannabis in the West until the mid-19th century. In the New World it was introduced to Chile by conquistadores for the production of cordage fiber and to the American colonies in the 17th century, and in due course to the British West Indies. By the 18th century, until the invention of the cotton gin replaced it as a primary export, hemp was an important plantation crop in the American colonies.

It was apparently not until the mid-19th century that the Western world discovered that the plant which produced hemp is the same species as that which has psychoactive properties. Cannabis was used in Western medicine until the turn of the century for the treatment of both organic complaints and mental illness. Although the value of cannabis as medication was disputed, extracts were commonly used as therapeutics by physicians in the United States. It was eventually replaced by new synthetic drugs which were more efficient to prescribe, since it is difficult to control cannabis dosage and to administer. Medical use in the United States was eventually discouraged by the Marihuana Tax Act in 1937. Use of marihuana in the United States as an intoxicant was apparently introduced from Mexico by migrant laborers; its spread among "deviant" groups first led to public concern and the enactment of the legislation.

Marihuana has become the folk-generic term for cannabis and is used interchangably with hashish. Hashish

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and marihuana, however, are different grades of cannabis, produced from different parts of the plant yielding different amounts of tetrahydrocannabinols (THC), the psychoactive constitutents. The biochemistry of cannabis is extremely complex and there appears to be more involved than THC. In addition, there are three or four grades of cannabis used in different world areas.

In addition to the pharmacological and ethnobotanical factors underlying much of the cannabis controversy, there are cultural variables which condition expectations of, and reactions to, the "cannabis habit." The vivid accounts of hashish smoking by Baudelaire, as well as of the French psychiatrist, Moreau, who conducted experiments on himself, provided the backdrop for Western cultural expectations and social concerns.

Cannabis Indica, the Indian variety of hemp, was used in ancient Hindu medicine as a nostrum for a wide range of complaints, was closely associated with ritual use, and provided an infusion for a restorative/refreshing drink, still commonly used in India. There are three grades of Cannabis Indica, varying in pharmacological intensity: charas, similar to hashish which is the most potent; ganja, the second grade of cannabis, similar to marihuana used in the United States; and bhang, an Indian specialty, which is the mildest form.

The ethnohistory of cannabis usage is of especial interest in determining both the source and time of its introduction to Jamaica and the stimulus diffusion of cultural beliefs surrounding the cannabis complex. We are still trying to establish some specificity about early use of cannabis in Jamaica as a drug. The evidence points to the introduction by indentured laborers from Indian who started to arrive in 1845. We are fortunate in having a well-documented source for cross-cultural comparison in the report of the Indian Hemp Drugs Commission, which carried out an intensive and systematic investigation of cannabis in India for one year (1893–1894). There are striking similarities between our preliminary data on the ganja complex in Jamaica and the descriptions of the alleged attributes of cannabis, the cultural beliefs surrounding its use and the social settings, as reported by the Indian Hemp Drugs Commission.

West Indian folk medicine has been elaborated over the centuries by the extensive use of native plants. The medicinal plants of Jamaica include 160 species distributed among 62 plant families, many of which have been incorporated into the folk pharmacopoeia, their properties piquantly portrayed by their folknames—Hug-Me-Tight, Bellyache Bush, Shame Weed (for gonorrhea), and the like. Ganja is a multipurpose plant in Jamaica; it is included both in the folk pharmacopoeia and the folk regimen. It is used in soups, stews, and sweets; it serves both as sedative and stimulant, and is commonly used in "bush teas" and as an inhalant for a variety of ailments from asthma to rheumatism. Ganja is the core of a culture complex which includes supernatural origin beliefs, mystical doctrines about elixir vitae, conviction about its efficacy as a universal remedy, a specific role in working-class culture, and class-structured attitudes of approval/disapproval of its use. Conceptually and structurally as well as in the range of varieties of usage, the Jamaican ganja syndrome approximates that of India.

Cannabis has been a household remedy in India since ancient times.

Dispensed by native doctors, it has been one of the most important drugs in the Indian materia medica. Among the extensive medicinal properties attributed to Cannabis Indica were its efficacy as a poultice for wounds, as a prophylactic against malaria, as a cure for leprosy, as a vermifuge, and to "correct derangements of the humours." Witnesses appearing before the Commission in 1873–4, reported that cannabis is "refreshing and stimulating," alleviates fatigue, creates the capacity for hard work and the ability to concentrate, and gives rise to pleasurable sensation so that one is "at peace with everybody." According to Hindu mythology the plant was given to man for "the welfare of mankind." Ubiquitous overt use is confined to the lower class and is most extensively used "among the poorer sections of the population."

The range of witnesses (over 1000) who testified before the Commission presented both positive and negative views of the observed or alleged effects of cannabis. Disapproval of the use of cannabis was largely linked to social position; "evil effects" were correlated with consumption by "low caste people (who) are not respected." The use of opium, however, by the higher classes was considered appropriate. Critical witnesses before the Commission correlated the use of cannabis with crime, violence, insanity, and disease as well as dissipation/debauchery. Ganja was considered an etiological factor in psychosis. The presumed high incidence of "ganja mania" in the lunatic asylums had led to the establishment of the Hemp Commission; however, a very small percentage of the cases reviewed were found in which "hemp drugs might be reasonably regarded as a factor causing insanity."

The features of cannabis as a culture complex, as culled from the Commission report are to be found in Jacaica. The grades used, methods of preparation and consumption; linguistic terms both for ganja and for the chillum pipe; prevalent use in the folk pharmacopoeia as a universal nostrum; pervasive beliefs in the properties of ganja as stimulant and sedative, as an energizer and an assuager, as the source of wisdom and of peace, are found in the ganja complex of Jamaica. The universal characteristics of the "elixir vitae" stem from belief in its divine origin. The complex of beliefs and behaviors surrounding ganja is structurally linked with the lower class, urban and rural. There is some confusion now about the social class configuration of cannabis use, as use has spread to the middle class (especially the youth). This appears to be a separate "diffusion," however, probably stemming from the U.S.

Rastafarians, a ganja cult group, present perhaps the broadest range of beliefs surrounding Cannabis Indica. Ganja is "the holy weed," of divine origin. It was the herb carried by the dove sent to Noah by God to indicate the presence of land and of useful cultivation. It promotes clarity of thought and wisdom as well as peace of mind and makes man at one with the divinity of the universe. This belief is comparable to Hindu mythology about the divine origin of hemp and its potency to link man with the Divine. Medically, it serves as prophylactic and a universal remedy; psychologically as a euphoriant and a source of quiescence, conducive to contemplation of the divine.

Ganja is smoked in chillum pipes (as in India) and cigarette form ("spliffs"), and is occasionally chewed. It is most conducive to peace

and contemplation when smoked by the communal group. Aside from its use as a bush tea in folk medicine, it is pervasive in Rastafarian dietary and is cooked as a vegetable or added to soups, stews, and sweets. Ganja is taken orally, as bush tea infusion and in the dietary by both men and women, but is generally smoked by men more than by women. Children are introduced to the ganja quite early, first as a medicament in "bush tea," or in a crude method of vaporizing where adults blow ganja smoke at an infant with respiratory congestion. They may start smoking quite early; and it is considered especially useful for school-boys—to help them study. Use by children is discouraged among other sectors of the working class, particularly as boys have to be old enough to earn money to pay their own way before they start smoking. This may be as early as 12–14 years, on leaving school. Other components of the Cannabis Indica complex are also found among non-Rastafarians, though some of the beliefs and practices are less intense and less pervasive in the ways of life of other groups. The Christian denominations generally discourage the use of ganja. Even among noncultists, however, it does provide the inspiration—in a social setting—for religious contemplation.

In the Jamaican working-class setting, hallucinogenic sensations are apparently neither sought for nor experienced, as far as our data to the present indicate. There appears to be one exception to this which has been reported by several subjects in relation to their initial experience with smoking ganja. This is a vision of a "little lady" who is "dancing and beckoning" the smoker. The vision is never repeated. It is seductive to think of this culturally patterned hallucination as a type of vision quest with legitimates smoking, obviously much more data are needed to bolster the hypothesis.

Probing may produce reports about occasional hallucinations, always attribute to excessive use or use of ganja with alcohol. Occasionally, nonsmokers explain any deviance given the cultural norm, by a nonhallucinogenic but subjectively traumatic initial experience. Even when they are turned off from smoking by an initial bad trip, some individuals may continue to use ganja infusions in bush tea. In general, however, the cultural expectations and subjective experiences of Jamaican working-class smokers are nonhallucinogenic, nonpsychedelic, and nondelirious. One of the values frequently ascribed to ganja by working-class users is keeping "conscious." Individual psychosomatic reactions are generally the reinforcement of a sociocultural expectation—endurance, energy, alleviation of hunger or invigoration of appetite, sharpening of wits or soporific; stimulant or sedative, secular or sacred—ganja is the elixir vitae of the Jamaican working class.

Furthermore, the concern of many specialists in the United States that marihuana creates an amotivational syndrome and a reduction of the work drive is not borne out by preliminary data on Jamaican working-class subjects. The standard report is that it makes them "feel to work" and that they can maintain higher levels of energy with ganja. This aspect is being studied now by videotaping of actual work behavior, with and without the use of ganja, under normal work conditions, to determine whether the reported increases of energy levels actually take place. The Indian Hemp Drugs Commission Report noted that the effect of ganja is to bring into play the natural disposition of the user and

that ganja use, per se, does not lead to crime or violence or insanity.

Contrasts in reaction to cannabis are becoming apparent within Jamacia itself, as a sociocultural phenomenon. Use has recently spread to the middle class; however, it is not as pervasive as in the working class and carries a different set of psychocultural expectations. These include concepts of enhancement of creativity, pleasure in listening to music, escape from boredom, return to a child-like state of absorption in details, search for the ultimate experience in sex.

Sociocultural and individual variations in usage and reactions have to be analyzed in relation to the chemical content of the cannabis and quantity consumed. Generally, working-class users regularly consume far more than middle-class users for much longer periods. They also tend to be more familiar with the plant and its products in terms of quality. Project data on dosages and frequency of use, as well as on the chemical content and grades of cannabis use are still to be compiled.

Hard drugs are so far unknown in Jamaica. Amphetamines and barbiturates are generally little used in the working class where there is traditional reliance on folk-medicines. A few cases of heroin toxicity have come to the attention of physicians on the North Coast, but the patients have all been American tourists. Concern in the United States about the association of marihuana with multiple drug use and the allegation that there is "no doubt that marihuana has long been important in the rites of initiation to heroin use—and for a medley of other drugs" does not apply to Jamaica, after a century of use of cannabis for medicinal and psychoactive purposes.

The North American tendency to speak of marihuana smokers is ethnocentric and fails to account for the range of behavioral phenomena which can apparently be induced by cannabis. Some observers have ascribed this phenomenon to an innate, if unknown, characteristic of the plant. Thus, it has been suggested, based on psychopharmacological studies, that "the same drug can cause opposite changes in behavior." Sophisticated observers recognize the function of psychological set and setting in producing reactions. Others have concluded that control of the dosage (titration) explains differences in reactions. Finally, it has also been theorized that cannabis has a highly complex influence, dependent on personality and culture as well as the drugs itself. At this point in our research the findings bolster the theory that cultural beliefs define the situation of cannabis use and condition the effects. My working hypothesis based on project data so far, is that the cannabis habit is an ethnopsychopharmacological phenomenon. I hypothesize that the effect of cannabis on the central nervous system is apparently mediated by ethnopsychological expectations and beliefs.

The Community Mental Health Center and the Private Medical Practitioner: A First Step

JONATHAN F. BORUS

Although psychiatrists have on occasion worked with interested individual primary physicians in enclosed hospital settings, mental health professionals in this country have rarely gone out into an urban community to contact its private practitioners. The literature suggests that developing relationships with primary physicians should be given high priority by CMHCs as these practitioners are potentially valuable allies in understanding and engaging the community. Serving in three roles—educator, case-finder, and caregiver—would give the private medical practitioners a unique ability to collaborate with the CMHC as facilitators of primary, secondary, and tertiary prevention of mental disorders. Their closeness to the community and knowledge of cultural and family problems can help them both encourage adaptive solutions to patients in crises and suggest target populations to the CMHC for planning of primary prevention programs; their place as first professional contacts can lead to more effective secondary prevention through early case finding, effective referral, and treatment; and their respected position in the community and professional power can make them long term aftercare and rehabilitative resources for tertiary prevention through limitation of disability in the more chronically ill.

A Priori Antagonisms

Psychiatry's relationship with general medicine has been plagued by an inadequate exchange of useful professional information. In numerous surveys primary physicians have complained about the lack of meaningful, understandable feedback from both private psychiatrists and from public psychiatric facilities to whom they have referred patients. Psychiatrists often feel that physicians inappropriately "dump" unwanted problem patients into psychiatric institutions without communicating information necessary for proper patient evaluation. It has been suggested that the nominal expertise overlap between psychiatrists and primary physicians promotes relationships in which both professional groups hide their feelings of inadequacy in the other's speciality field either by lack of communication or by unintelligible retreat to the jargon of their specialities.

The physician typically is more active in taking over the decisionmaking process about an illness, and he expects his patient to passively follow medical advice. The psychiatrist, on the other hand, appears more passive, taking over less of the patient's decisionmaking role and stressing that the patient should learn to understand and solve his own problems. The physician views the psychiatrist's mode as time-consuming, passive, and insufficiently action oriented to meet the needs of many patients. The psychiatrist sees the physician's mode as authoritarian, unfeeling, and oriented too much toward action and procedures to allow full understanding of each patient.

Antagonisms between primary physicians and CMHC professionals also stem from the mutual distrust of pri-

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vate practice and governmental-university forces in medicine. Most CMHCs are financed and run by Federal, State, or local government bodies and/or university medical centers. The private practitioner is often suspicious of large public institutions that seem to be "invading" his territory and sees these institutions as threats to his private practice of medicine. With such antagonisms it is predictable that a movement of unknown psychiatric professionals with government and/or university affiliation—that is, a new CMHC—into a community will result in increased suspicions, tensions, and stereotypic labeling by both private medical practitioners and CMHC professionals. If a CMHC wishes to make effective contact with its community's physicians, a plan of approach which is cognizant of these underlying antagonisms must be devised.

The First Step: Strategy of Approach

I shall describe a strategy for approaching a community's primary physicians that was designed to bypass or minimize their anticipated antagonisms toward a new CMHC. It was felt that the CMHC, as the newcomer entering an established social network, needed to reach out to the established medical practitioners to gain their confidence and cooperation; the CMHC had to demonstrate to the primary physicians that it had something of value to offer them.

For the second premise of the approach strategy, an attitude for approaching the primary physicians was adopted, an attitude that from the first contact attempted to foster the development of a "coprofessional working relationship" based on the idea that both participants are learned and skilled professionals who can potentially work together in certain areas with mutual benefits. The CMHC can offer its wide range of evaluative, therapeutic, and consultative services, and the physicians can offer educative, casefinding and referral, and manpower-saving services to the CMHC.

Tactical Application in Pilsen

In January, 1968, the Pilsen CMHC was opened in a storefront near the main intersection of this Chicago community. Pilsen is one of the city's oldest communities, is populated by one of Chicago's lowest socioeconomic classes, and has been the traditional entrance point to the city for many ethnic minorities. Supporting the hypothesis that a community with an ethnic majority seeks and attracts physicians of the same ethnic background, the medical community in Pilsen has been in a state of transition with the influx in the last 10 years of a large number of Spanish-speaking practitioners who have substantially replaced departing physicians of eastern European descent. A 1968 survey of Pilsen verified that not only were these private practitioners heavily utilized medically by the community but they also functioned as the first professional contract for the emotionally upset. The Pilsen private practitioners, therefore, stood out functionally and ethnically as caregivers who potentially could help our new CMHC.

The CMHC had only been open for 4 months when I joined the staff as a part-time psychiatric consultant. Up to this point there had been little contact with the medical community and not a single direct patient referral by a local private practitioner to the CMHC. As severely ill patients filtered into the CMHC from nonphysician referral sources, the CMHC staff, largely composed of nonphysician

mental health professionals from the nearby academically oriented medical center, began to question the quality of care provided these patients by their primary physicians.

To gain support for a program with private practitioners, I presented to the staff my reasons for according high priority to working with community physicians. It was agreed that, although the initial contact with the private practitioners would be made by me as one physician contacting another, the long term relationship with the medical community must involve the CMHC as a multidisciplinary whole. I accepted the staff's reserved approval and proceeded to contact the primary physicians.

To make contact with all of the medical community, I first had to locate its member physicians. Dissections of the AMA Directory and the telephone books were both tedious and under-productive in this changing medical community, yielding the names of only 15 physicians with listings in Pilsen. In contrast, a block-by-block canvass of the neighborhood on foot, in which I observed physicians' names on signs, windows, and door directories, yielded 44 names and demonstrated the superiority of this fatiguing method for acquiring an inclusive physician population in a transitional urban area. However, as letter and phone contacts were attempted, this list of 44 names was pared down to a definitive list showing only 22 physicians actually practicing in Pilsen, a majority of these on only a part-time basis. Many of the physicians from the street canvass had moved to new locations, retired, or died. Their professional replacements often continued to use the names and credentials as well as the offices and signs of their predecessors, as part of the practices' "good will" built up in the community.

The next step was to translate the strategy of a coprofessional working approach into tactics appropriate to reaching the primary physicians. As the representative of the CMHC, I approached practitioners through a chain of three personal contacts—a letter, a telephone conversation, and an interview.

The first contact was an individually typed and signed, hand-stamped letter sent to each physician in the community. The letter's contents introduced me as a psychiatric consultant to the new CMHC, stated my eagerness to meet the practitioner and hear his point of view about the community's needs, and informed him that I would call him in the next week to arrange a meeting. In the second contact, the telephone call, I restated who I was and what my purpose was in contacting the physician and attempted to set up an appointment for an interview with him. The third contact was the interview itself, conducted at the practitioner's office at a mutually convenient time. This interview was planned to be both informal and personal, with the three general aims of acquainting the primary physician with the new CMHC, eliciting his ideas about mental health and illness in the Pilsen community, and discussing possible areas of cooperation and collaboration in patient care. Utilizing this strategy and tactics of approach, I was able to interview 86 percent of the physicians actually practicing in Pilsen.

The interview itself had a specific format, which I committed to memory, and was loosely constructed in order to cover a certain set of subject areas without losing an informal and personal tone. The first aim was to

familiarize the primary physician with the new CMHC, introducing its philosophy, institutional foundations, and available and potential services. Although the practitioners were usually reluctant to talk freely as the interview began, this introductory description seemed to stimulate them to voice quite openly their positive and negative feelings and opinions about mental health care in general and Pilsen's mental health problems in particular. Almost all of the physicians reacted favorably to the increased mental health services that the CMHC could provide, but the predicted antagonistic feelings toward psychiatry, government, and academic medicine were also voiced.

The second aim of the interview was to elicit the primary physicians' impressions about the patients in their community and the culturally prevalent manifestations of mental illness. Through discussion of the practical cases and problems they faced, I gained information about how these practitioners conceptualized the issues of mental health and mental illness, what they felt about psychiatrists and the relevance of classical psychiatric care for their patients, and their personal and group patterns of recognizing, treating, and referring emotionally disturbed patients.

The third aim of the interview was the discussion of mutually beneficial areas of collaboration. These physicians were quite interested in discussing in detail the direct diagnostic, treatment, and rehabilitation services that the CMHC could offer and plans were formulated for exchange and feedback of information about referred patients' progress and disposition. The practitioners further suggested that the CMHC prepare and send them referral instructions listing the types of information they should provide to facilitate patient evaluation and communication.

It was emphasized to each physician that the CMHC did not intend to "steal" his patients from him, but rather that we hoped to work cooperatively with the primary physician when his patient had emotional difficulties, that if we did see his patient we would maintain communication with him about the patient's condition and progress, and that the CMHC preferred to have the primary physician continue to be the patient's major direct caregiver while we served the patient indirectly through consultation. Of the interviewees, 79 percent said that they would be interested in developing such consultative relationships with the CMHC, focusing on difficult cases they were already treating themselves and cases we would evaluate with them.

Other areas of collaboration discussed in this third stage stressed the direct and consultative services the private practitioners could provide for the CMHC. Of the physicians interviewed, 53 percent offered to work up medical referrals from the CMHC if we needed their direct or consultative help. Thirty-seven percent said that they would be interested in exploring the possibility of taking over the tertiary preventative aftercare responsibility for some of the chronically ill patients by administering psychoactive drugs and providing brief verbal supportive therapy.

There was an immediate inflow of referrals from these private practitioners during the study, with 33 percent of the total new patient caseload at the CMHC during the 1st months of the interviews coming directly from community physicians. An accounting of the longer range effects showed that

in the year after the study began, Pilsen physicians referred 12 percent of the CMHC's new cases, with 63 percent of the private practitioners who had been interviewed referring at least one patient to the CMHC.

Problems in Maintaining the Relationship

The main focus of this study has been on the development and evaluation of a strategy and set of tactics to make initial favorable contact with a community's private medical practitioners as a "first step" toward establishing ongoing collaborative relationships. The primary objectives of this first step were accomplished, as personal contact was made between the new CMHC and virtually the entire existing medical community.

It must be recognized, however, that the described chain of contacts is not in itself equivalent to an ongoing consultative relationship. If ongoing relationships with private medical practitioners are the ultimate goal, there must be effective follow through contacts to reinforce the positive effects of the first step contacts. In Pilsen inadequate follow through resulted in a failure to establish an ongoing program with the private practitioners despite the success of the first step.

In Pilsen, detailed procedures for exchange of professional information and collaborative case handling were devised. However, as the primary physicians referred patients, it became apparent that most staff members were not following through in contacting the physicians, either to obtain information from them for evaluation or to transmit information to them about the psychiatric findings. This seemed to stem from a combination of unresolved staff attitudes about working professionally with the private practitioners and unexpected program changes which increased the direct service load on the CMHC, thereby diminishing sanction and commitment to indirect consultative programs.

The CMHC staff had only been lukewarm in its initial approval of the project, voicing an anticipated fruitlessness of relationships with private practitioners. When I later reviewed with staff members the reasons why they had not followed through with the feedback procedures, they frequently made stereotypic statements about practitioners' insensitivity to emotional problems, financial gouging of indigent patients, and lack of psychiatric sophistication, but often such statements seemed to mask concerns about their own abilities as nonphysician mental health professionals to deal with the community physicians.

The second factor inhibiting follow through occurred near the end of the first step contacts, when a major change in Department of Mental Health policy and distribution of services greatly increased the Pilsen CMHC's load of chronically ill patients returning from long Sate hospital stays. Concurrently an unexpected budget cut threatened the ability of the CMHC to complete its staffing and meet its program commitments. Under these pressures it was decided that 80–85 percent of staff time had to be devoted to direct patient services, and all consultative contacts with outside agencies or caregivers which might add further referrals to the direct service load were summarily halted. Thus the initial staff reticence about becoming actively involved with private practitioners plus an administrative decision to curtail activity with outside caregivers together resulted in the CMHC's failure to follow through on the primary physician contacts.

The results of this sequence of events are reflected in the frequency pattern of referrals in the first year following the initial contacts. The referral pattern suggests an initial raising of primary physician expectations by the survey contacts, a decline when no follow through contacts occured, a rekindling of expectations with the sending of the promised referral instructions, and a frustrating second disappointment which cut off referrals when the CMHC again failed to maintain contact. For the vast majority of Pilsen physicians, the total experience with the program has probably served to revalidate their stereotypes of CMHC professionals as "academic-government types who promise big things but do not deliver" on a practical level to meet community needs. The private practitioners' desire for coprofessional collaboration with the CMHC appears to have been extinguished and their persistent low level of referrals seems to reflect a dumping of a few unwanted patients instead of a referring of desired patients for collaborative therapeutic efforts.

The foremost suggestions for follow through gained from the Pilsen experience concern the necessity of insuring CMHC commitment to continued coprofessional contacts with the private medical practitioners. The potential difficulties in relationships between a mainly nonphysician CMHC professional staff and the primary physicians must be discussed with both groups so that a workable coprofessional situation can develop. Methods for information exchange between the two sets of caregivers must be worked out to the satisfaction of both professional groups.

In retrospect, these issues might have been resolved in Pilsen by providing a variety of opportunities for the community's primary physicians and CMHC staff to meet as coprofessionals. Nonphysician staff members could have taken turns accompanying me on interviews to get a more realistic first-hand view of the vital mental health role played by these practitioners. More feedback to the CMHC staff could have been provided as the chain of contacts progressed. An open house at the CMHC for primary physicians could have been scheduled as a fourth link in the chain of contacts to provide informal interaction between the practitioners and the CMHC staff. The participation of interested physicians in CMHC patient planning conferences could have demonstrated the primary physicians' multiple areas of expertise to the CMHC staff.

An enlarged base of contact might also have increased administration and staff priority for this consultative program and promoted a less introversive CMHC reaction to the bureaucratic and budgetary complications experience at Pilsen, which are inherent in all publicly financed community mental health programs. The administration and staff might then have had the confidence to turn outward and work collaboratively with Pilsen's primary physicians in handling the increased direct service demands of chronically ill patients on the CMHC.

A Blending of Two Roles: The Administrator—Psychiatric Social Worker

MYRON JOHN ROCKMORE AND JOHN J. CONKLIN

In these days of frequent complaints about the impersonality of large bureaucratic organizations, how can policy-level administrators respond to the problems of the individual? In Connecticut, the State Department of Mental Health serves as an operating unit of the executive branch of government. It is here that the public social policies formulated in the Legislature are translated into clinical services in behalf of patients. The staff of the commissioner works closely with the titular heads of the several operating units of the department. It is at this level that the professional consultants and spokesmen for specific functions such as personnel, budget, the various clinical services, and administration meet to consider and promulgate the policies and procedures related to the inpatient, outpatient, community, and general treatment services in behalf of the psychiatric patients hospitalized in our facilities and treated by them.

One section in that pinnacle of administrative organization is the operating section known as Psychiatric Social Service. At the commissioner's level this is staffed by a Director and Associate Director who are responsible directly to the commissioner. Part of the suborganization for which they have technical responsibility includes eight Chiefs of Psychiatric Social Service who have leadership positions in the social work programs in the hospitals, clinics, and mental health centers of the department. Further, these chiefs have as clinical resources a combined staff of supervisory and other personnel who number close to 200. These social workers are responsible in psychiatric settings for the provision of social work services to the patients, their relatives and the community agencies that serve these patients.

Within the larger organization of the Department of Mental Health, there exists a network of clinical service which provides feedback so that policies, procedures, and improved services can be based on constantly changing circumstances. However, there are always circumstances where unforeseen contingencies require "on-the-spot" specialized individual action. Over the past several years, these "contingencies" have been surfacing in the commissioner's office in increasing numbers and have an urgency which would make it unwise to have them handled in summary fashion. Many individual clinical problems flow directly into the commissioner's office on a bureaucratic basis as well as random happenstance. Complaints range from individual maltreatment to falling ceiling plaster, misuse of patient funds, out-of-district transfers, or requests for special consideration. A change of program or policy, a newspaper story, or a reported new treatment or technique may bring a spurt of inquiry. All need careful assessment, differential response, and appropriate handling. Some of these requests develop into situations requiring continued service and attention over a period of time.

For years, various members of the commissioners' staff had been simulta-

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neously and unsystematically engaged in relating to a number of individual requests ranging from serious patient complaints to informational inquiry. As a result of discussion, a Patient Services Committee was assigned to look into the content of the activity. A procedure was identified and adopted which centralized all inquiries by routing them to the Social Service Section.

Some situations require delicate coordination of resources, careful liaison, and interpretation. For example, the Attorney General called concerning a patient at one of our hospitals. After many years of the patient's hospitalization the hospital planned to place her in an appropriate extended care facility. The two elderly sisters of the woman were concerned about this placement. When the psychiatric social worker assigned to the case at the hospital was called, it turned out that the real issue was the sisters' worry that the patient would be placed in a convalescent home close to their home. Their neighbors were unaware of this woman's illness, and apparently her sisters were willing to have her placed in a convalescent home near them, but not too close. Under no circumstances did they want her placed in independent living circumstances. The Attorney General was called into the case and was able to reassure the sisters, who were given a larger part in the placement planning.

This kind of service requires a clinical case record system which involves systematic organization for ready reference both for case continuity and accountability. Collateral material such as previous clinical records needs to be secured before judgments or courses of action can be embarked upon. Other agencies, public and private, need to be consulted and situations discussed at length. This kind of approach differentiates a valid service referral from what might otherwise result in even a polite "brush-off."

During the period January 1 to December 31, 1970, some 666 individual situations received the attention of the Social Service Section. Included in this number were 21 "walk-ins." In addition to the service aspects, these daily intrusions on broader official assignments have obvious public relations implications and must be handled in the best and most patient professional manner. In the average month, 55 *new* situations were identified. It was surprising to find that about 10 percent of the cases were identified in the Social Service Section as having been recurrently known for several years through existing case records. This group, therefore, was counted to be "reopened" cases. About 5 percent of the total volume of "inquiries" validly require the continuity of service of the commissioner's office until there is a resolution of an issue.

At any time, there are in process between 50 to 60 "open" cases. All requests are handled by appropriate individual consideration and assessment of the situation. This involves either a simple, direct informational service, or a complex clinical-administrative disposition requiring interviews, prolonged correspondence, or several telephone calls to tie down responsibility for what might have been an acute situation. Each letter received routinely requires an immediate acknowledgment and usually a letter of referral or inquiry to one of the department's units. Thus early in the process a line of communication is established.

Various clinical and administrative decisions need to be made in each case. Enough content needs to be de-

veloped to make a judgment regarding the validity of the request, or the need for an ongoing service. One has to become involved sufficiently to appreciate the problems' depth but not so involved as to hold out the promise of open-ended continued service. The degree of sophistication regarding inter- and intradepartmental administration and resources necessary to function at this level is considerable. The clinical knowledge and experience called for to have an awareness and assurance of the latitudes and limits of this service and to make judgments within them are equally evident. Thus, it was decided that the service provided would be limited to that of information, brief service, or referral since it was not deemed desirable nor feasible to establish a psychiatric clinic in the Offices of the Commissioner.

Built into this conception of the service is the availability of the backup service of a community clinic which is located nearby and staffed by professional people in all categories from one of the department's inpatient facilities. In emergency situations, patients may be referred directly to the clinic for team evaluation or to one of the local hospitals. In the general situation, the major emphasis of the service provided is to assist the commissioner in crisis situations. If a brief specific service does not suffice, then it is necessary to determine what facilities may be most relevant to the person's need and to make a clear and responsible referral to the appropriate clinic or community agency.

Centralizing this service has served to develop a uniform approach to these "incidents of service." This responsibility might appropriately be allocated to a number of the professional disciplines and the handling would no doubt vary from profession to profession. In this illustration, the social workers have utilized the approach which is identified as an updated social casework service. In essence, the attempt is to meet an immediate problem as one identifies and understands the clinical and administrative variables related to it. The social work knowledge base of all technical methods is directly relevant to the task.

No program can be considered responsive to the needs in the mental health area without a clear reflection of the hand on the pulse of the people to be served as suggested by this activity. Social casework practiced at this administrative perch demonstrates its relevance to shaping policy and procedures which may affect the delivery of services to thousands of patients at the clinical level.

It seems quite feasible that other large administrative organizations might use this experience as a model to build into their structure provision for an information, referral, and brief service adjunct which could even include members of its organization or constituents served by it as a ready access to clinical services. This might be applicable to large educational administrative services where there are no clinical teams available to students or faculty. It might apply to large social agencies where an information, referral and brief service might provide direct consultation to workers in behalf of their caseloads or directly to various members of the organization, should they need assistance.

Modes of Adjustment of Married Homosexuals

H. Laurence Ross

This paper concerns homosexuals who have contracted legitimate marriages with members of the opposite sex. Various studies of group homosexuals in different countries have found sizable proportions of the subjects to be married despite the fact that it is in general only self-accepting and publicly identified homosexuals who are studied. If marriage and homosexuality do not represent a logical contradiction, the combination is likely a strainful one. The law of Belgium, where this study took place, will not nullify a marriage upon proof of nonconsummation, but normal sexual relations are among the legal duties imposed under the Code; and violations of this duty may support an action for divorce. The institutionalized heterosexual relationship seems to be of great importance in distinguishing marriage from other types of deep and lasting friendships, and sexual gratification is generally assumed to be one of the central obligations and rewards of marriage. This research raises the question of why homosexuals choose to enter the seemingly conflictful situation of marriage and why their heterosexual partners accept them. It also asks what form the conflict takes, and what resolutions have been worked out in various cases.

A sample of married homosexuals was obtained through the offices of an informal organization of homosexuals, and through acquaintances of colleagues and students of the writer. Eleven homosexuals, of whom one was female, and four heterosexual partners volunteered for the research. The research method was the focused interview. An effort was made to restrict the sample to couples living together, and to interview both members of the married pair, though the latter condition was impossible where the partner was ignorant of his mate's homosexuality. The sample was admittedly small and haphazard, and circumstances forced violation of all of the guidelines in one or another case. Therefore, the resulting materials are incapable of supporting the usual type of social science generalizations. The research was conducted and is reported in the belief that this quantitatively important social problem is currently shrouded in ignorance, and that methodologically deficient procedures are warranted in the absence of the possibility of using better ones. The status of the findings, thus, is quite tentative. No estimates can be offered concerning the quantitative distribution of traits among married Belgian homosexuals more generally. Rather, the couples interviewed serve as examples of various possible and actual resolutions of an important role-conflict dilemma, without indicating how frequent these resolutions may be and without any expectation on the part of the writer that all forms of adjustment have been observed.

The Homosexual's Decision to Marry

The simplest explanation for the heterosexual marriage of a homosexual is that the latter did not acknowledge his status until after marriage. Looking back at their engagement periods, most of the homosexual respondents recognized that they felt "different" from others in the sexual sphere,

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but some of them had not arrived at a homosexual self-definition at that time.

A second reason for marriage, even for self-defined homosexuals, is a conscious flight from homosexuality. Some respondents' decision to marry turned on the belief that their attraction to members of the same sex was a situational phenomenon which would disappear with the opportunity to have regular heterosexual relationships. These people had had little sexual experience of any type prior to marriage and had come from particularly moralistic and puritanical families. Their decision was often suggested or encouraged by the advice of counselors such as priests and doctors.

A third group of reasons involves rational choice. Many of the respondents listed among their life goals the realization of certain family-centered values, such as the bearing and raising of children, a life focused on home and hearth, companionship, and escape from loneliness. Some of these individuals, though defining themselves as homosexuals, experimented with heterosexual relations before marriage to see "if it would work." Although they found the heterosexual relations less pleasurable than homosexual ones, they found them at least possible, and elected marriage principally for the other satisfactions it seemed to offer. Another group of reasons to marry cited occasionally by the respondents relates to social pressures.

This consideration of the homosexual's decision to marry suggests the related question: why did their mates accept them? An obvious answer was offered by the bulk of respondents in this study: the heterosexual's decision to marry was taken in ignorance of the fact that his parnter was a homosexual. Either the latter himself was not conscious of his homosexuality, or he chose not to share knowledge of this fact, as in the cases of those who married in order to change their sexual preferences. But there were heterosexual partners who appear to have taken the decision to marry in the knowledge that the partner was homosexual. Some of them appear to have acted in the belief that the partner would change his sexual orientation, an optimizing definition that appears, at least in the cases studied, to have been unrealistic. This optimizing definition also occurred in some instances where the partner's homosexuality was discovered after marriage.

Sources of Conflict in the Marriage

Many of the respondents reported problems in the narrowly sexual realm, increasing as the marriage aged. Declining sexual contact was frequently reported. In these cases, the husbands reported that their wives had relatively little need for sex, but the wives, when interviewed, vehemently denied these reports. Complicating the sexual frustration felt in these families was the fact that the heterosexual partners had learned of their husbands' deviation only after the marriage and felt defrauded and resentful.

Among the most serious conflicts reported were those related to the homosexuals' forming affective ties outside the marriage. Casual homosexual relations were sometimes pardoned by a heterosexual partner, but deep and intimate relationships were as a rule resented. The heterosexual felt the competition of someone from the other sex to be unfair. Paradoxically, the establishment of a homosexual liaison—which was the partner's greatest fear—was often the homosexual's greatest hope as compensation for his

marital problems. Several men mentioned their active search for a friend, perhaps another man in the same marital status, though they sometimes characterized the search as futile on the ground that the wife would not accept their forming such a relationship. The homosexual husbands often spontaneously declared that they would tolerate a similar relationship for their wives. As the wives were seldom conceived as interested in such a relationship, this asserted liberalism may have served as a rationalization for the man's experienced peccadilloes.

Modes of Adjustment

Separation—Although two separated homosexuals were eventually interviewed, the preferred method for selecting respondents required that they be living together. Of the latter, nearly all had considered separation as a resolution to the strains of marriage, but it had been rejected at the time of the interview, despite the fact that some of the couples were experiencing great conflict and were pessimistic about the future of their marriages. A principal reason offered for rejecting the idea of separation was the belief that the children of the marriage would be harmed by the parental separation. The enjoyment of a common home, the advantages of the division of labor between man and wife, the companionship of the couple on a platonic level, the fear of inability to have an independent life, and—less frequently acknowledged—social respectability would seem to be important consideratons. There was evidence of considerable psychological adjustment to the peculiarities of the partner, along with the suggestion of some perverse pleasure taken in the difficulties encountered.

Platonic marriage—For some couples the problem of a sexual conflict was solved by the abandonment of sexual activities within the marriage, accompanied by personal attention to nonsexual satisfactions of the marriage and to outside activities—the business or profession on the part of the husband, the children or a job on the part of the wife. Some couples, particularly those where the heterosexual partner remained ignorant, continued heterosexual relations within the marriage, but on an infrequent basis.

The double standard—In some cases, the homosexual partner succeeded in establishing an overt liaison outside the marriage while retaining the fundamental allegiance of the heterosexual partner. No case was found of a *ménage à trois*. Rather the homosexual partner would visit back and forth between his own home and the independent home of another homosexual. However, although homosexual partners in a double-standard marriage seemed to find the situation acceptable, it was greatly resented by the heterosexual partners who permitted it as a means of retaining the spouse, but who were pessimistic about his ability to maintain the dual commitment.

Innovative marriage—One couple interviewed, and another by heresay, claimed the maintenance of heterosexual relations on a frequent basis, the homosexual enjoying occasional homosexual exploits in addition, which he discussed openly with his spouse. The couple interviewed involved a homosexual husband who encouraged his wife in extramarital affairs. The couple also enjoyed sexual relations together with a homosexual man. In this case the husband claimed that he was bisexual, capable of fully enjoying relations with his wife but with no

other woman. The wife claimed complete acceptance of her husband's homosexuality. She felt that being married to a homosexual was more interesting than the usual marriage because there is a kind of complicity between the husband and the wife against the rest of the world.

The Effectiveness of the Adjustments

The adjustments observed among these married homosexuals occurred in the context of the near-complete acceptance of conventional norms by most of the people studied. Given this fact, the adjustments must be considered relatively poor solutions to the problems posed by the conflict between heterosexual marriage and homosexuality.

The "platonic marriages" entailed mutual satisfaction and displacement of interest from the marital tie. Biological and consequent psychological frustration underlay these marriages, and dissatisfaction was often overtly expressed to the partner, with consequent mutual guilt. The double standard shifted much of the price of conflict onto the heterosexual partner. However, the principal of frustration and devaluation of the partner in these marriages yielded interest of aggression and bitterness directed back on the spouse who enjoyed the freedom of the double standard, and interfered with the full enjoyment of his extramarital friendships. In terms of marital happiness and freedom from interpersonal conflict, the innovative marriage was the most successful of those reported, but it depended on some apparently unusual circumstances, namely the sexual versatility of the husband and the broadmindedness of the wife.

Although Belgian culture is in these respects rather different from the American, being Catholic and non-Anglo-Saxon, these ideas have their parallel in certain familiar strata of American society, particularly middle-aged members of the lower-middle class. Examples of these views are the idea that sex in nearly all its froms is unclean and animalistic, that marriage is indissoluble, and that among its highest duties are producing and rearing children. Another relevant belief is that of the superiority of men to women, with the latter being obligated to complete fidelity to husband and children. Homosexuality in this culture is considered sinful, immoral, and unnatural. These beliefs functioned to induce homosexuals to marry, to prevent the dissolution of families once established, but also to prevent the mutual acceptance of each other by homosexual spouses and their partners. On the whole, the adjustments observed produced stable marriages, but very unhappy ones.

However, a good measure of the misery recounted in the interviews seems to stem from nonrational attitudes reflecting cultural prejudices, above and beyond any biological frustrations or functional inadequacies of the families in question. Perhaps somewhat different results would be observed in the context of Scandinavian, Dutch, or upper-middle-class American circles, or even among more "modern" Belgians. Where the obligations of marriage are conceived primarily in terms of the partners' duties to each other rather than to outsiders or to social institutions, where sex is seen as a game in which individual taste has a legitimate role, it would seem reasonable to speculate that marriages in general, and homosexuals' marriages in particular, could be happier, though perhaps less stable, than was the case in this research.

Sex Role Differential and Juror Decisions

ELOISE C. SNYDER

This article reports on a study of actual, not simulated, jury decision making and attempts to determine the extent to which certain characteristics of jury composition affect the decisions which jurors render. Specifically it compares the decisions of members of all male juries with those reached by members of mixed-female juries on similar cases. Both jury types were six-person juries and during the period covered by the study in which women were permitted to serve on juries, 59 percent of the jurors were female and 41 percent were male. On several juries women were even appointed by the judge to serve as "foremen" of the jury.

In order to determine the impact which the addition of women to juries had on the decisions reached by the juries, the decisions of the jurors of all male juries for September, October, and November of 1966 were compared those of the jurors for the same time period during 1967; and this comparison was concerned with determining whether any differences occurred between these two jury types in regard to the decisions reached as these decisions related to: (1) the favoring of the plaintiff or defendant; (2) the favoring of the "superior litigant" or the "inferior litigant"; and (3) the amount of money awarded to the winner of the case.

Favoring the plaintiff or defendent—In each of the cases, one of the litigants, feeling he has been "wronged," brings the case to court and asks for financial redress; this litigant is known as the plaintiff. The other litigant, the defendant, attempts to defend himself against the charges being brought against him by the plaintiff. The combined total of decisions from the all male jury and the male-female jury favored the plaintiff more frequently than they favored the defendant; although the extent to which they did so seems much smaller than might be expected since it is possible that the plaintiff, having brought the case to court, had a better case than the defendant, who had to be brought to court. A comparison of all male and the male-female juries, however, shows that the plaintiff's chance of winning decisions does increase slightly from 50 percent to 58 percent with the addition of women to the jury. This means that there is a slight but not significant tendency for jurors on the male-female jury to favor the plaintiff or the defendant.

Favoring the superior or inferior litigant—In each of the cases the litigants were compared with each other in order to determine whether they were of relatively equal status or whether a superior-inferior relationship existed. These determinations were arrived at on the basis of hierarchy of social positions in which businesses or groups are superior to Negroes, and adults superior to youths. The respect accorded the specific litigants by the community were also considered in order to take into account any personal influence factor which might be operating.

In the total decisions rendered by those on the all male jury and the male-female jury, the superior status litigant won more frequently than did

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the inferior status litigant although his ability to do so was greater when confronting the male-female jury. This may be due to any one or a combination of factors, among which are the following: (1) Since the all male jurors served 1 year prior to the male-female juries, during this 1-year period the inferior litigants may have been able to present increasingly better cases, or (2) during this period the community attitudes toward persons of inferior status groupings may have undergone change, or (3) it is possible that the addition of women to the juries was the primary cause of the inferior's ability to win.

It may be that the relationship between the addition of women to juries and the increase in the inferior status litigants' ability to win from such juries is related to the fact that women, often regarded in society as comprising a minority grouping, tend to favor other members of minority groupings more than do men. However, analyses of other data concerning jury composition indicate that jury members regarded as having superior status show a slight tendency to favor the litigant regarded as having inferior status while inferior status jurors tend to favor superior status litigants. If further research uncovers this same relationship it would mean that women on juries react somewhat differently from other juror classifications regarded as having minority status.

The amount of money awarded to the winners of cases—In 1966 (September-November) the all male juries were asked to award $62,451, while during the same months in 1967, the male-female juries were asked to award $131,433. Thus, the amount of money asked by litigants more than doubled within a 1-year period. And, although from both juries a few litigants received all of what they asked, and others received none of what they asked, the amount awarded by the all male jury was approximately 52 percent of what was asked, while for the male-female juries the winners of cases were awarded only 20 percent of what they asked. This finding appears to show that although the addition of women to a jury may result in an increased ability for the inferior status litigant to win decisions, this ability does not guarantee that the inferior litigant will be awarded as much of the money requested as he might have been able to receive from an all male jury. This would indicate that although the presence of women on juries enhances an inferior litigant's chances of winning, it does not enhance his or for that matter the chances of the superior litigant to be awarded money. Such seemingly inconsistent factors as reflected by women's behavior on juries however are not at all unlike the behaviors reflected by women in the United States historically. If further research shows that women do tend to be more empathetic toward socially inferior status persons than do men, the impact which this has for a society in which women are not only increasing their proportion of the vote but also increasingly being elected or appointed to governmental offices cannot be overstated.

Prime Time for Education: Early Childhood or Adolescence?

William D. Rohwer, Jr.

Research and development efforts in early childhood education have achieved notable success. We have learned much concerning intellectual development during infant, preschool, and primary years and have demonstrated that the intellectual development of children from low income families can be effectively fostered during these years. Momentum has been established with respect to interest and effort devoted to early childhood years; barring fiscal betrayal, this momentum should increase the quality and outcomes of preschool and primary schooling.

However, until some fundamental assumptions of early childhood educators are seriously questioned, increased investment in current preschool and primary school programs may be unwise. It has not been established that early childhood is the optimal age range for imposing traditional academic content; furthermore, early childhood or early elementary school programs may have a slight, or even negative, effect on the attainment of educational goals. Thus, research and policy in early childhood education should be evaluated in light of larger educational issues:

Developmental changes in children's mental capacity. Does emphasis in early childhood education make sense in light of *later* cognitive growth in children? The character of intellectual functioning beyond the early childhood years has received virtually no research emphasis, so we cannot adequately appraise the consequences of development during the early childhood years. One purpose of the present essay is to provide a persuasive rationale for research on cognitive development in late childhod and adolescence.

The relationship of educational objectives to the demands of society. We can only decide *when* to focus on certain goals after consideration of *what* those goals are and should be. Without precise objectives it is impossible to detail relationships between the learning demanded of students in one level of formal schooling and that demanded at subsequent levels. One cannot confidently say whether elementary school learnings are necessary, or even helpful, in acquiring the skills and information demanded later in school, much less in life more broadly conceived.

Evaluations of Early Childhood Programs

A case in point is supplied by the controversies surrounding the effectiveness of programs of early childhood education. A recent article reviewed studies evaluating the results of early education programs designed for children from low income families and concluded that compensatory education has been tried and apparently has failed. Remarkably, the opposite conclusion can be justified: early childhood education programs have been tried and apparently have succeeded.

These ostensibly contradictory conclusions stem from at least three kinds of disagreements: about the criteria that indicate success; about the scale on which success must be demonstrated; and about how enduring a

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positive effect must be in order to signify success.

A hypothesis has been offered to account for the apparent fact that the benefit of early childhood training diminishes with time. In brief, it posits two general varieties of learning ability, *associative* and *conceptual.* The first is characterized by the establishment of direct connections between stimuli and responses such that performance resulting from learning replicates stimulus materials. In contrast, conceptual learning processes involve transforming the original materials to produce new information or to transfer it to a new situation. The hypothesis assumes that during the age span of approximately 5 to 7 years, conceptual processes begin to dominate associative processes in the intellectual activities of the child. Further, school instructional practices fit this presumed shift so that learning tasks presented to children become increasingly conceptual with succeeding grade levels. Finally, on the average, conceptual modes of learning become dominant earlier *and* reach a higher asymptote in children who are white and of high socioeconomic status (SES) than in children who are black and of low SES. All of these assumptions, taken together, account for the presumed phenomenon that benefits derived from early childhood programs by children from low-income families diminish with advancement through the school curriculum.

This account underlines the importance of considering the expected longevity of an educational effect in evaluating the success of a program. For example, the phenomenon of diminishing benefit, or of cumulative deficit, must be attended to if the goal of effective education is ever to be reached. In order to do so, it is necessary to resolve a prior issue, namely, specifying the meaning of the phrase, "effective education."

The Objectives of Formal Schooling

The effectiveness of schooling practices should be judged by the degree to which they assist the student to be adaptive in extraschool tasks. In no case should a student's school attainments be evaluated by a standard that does not have a demonstrable validity for extraschool demands.

These prescriptions may appear restrictive or anti-intellectual; their implications depend on the identification and definition of extraschool tasks and demands. In the present discussion the assumption is that extraschool tasks come in an extraordinary variety: seeking, finding, acquiring, remembering, extending, transferring, creating, communicating, comprehending, understanding, predicting, acquiring, and enjoying. Clearly these tasks vary widely in character; they all share, however, a demand that the individual develop cognitive skills and coordinate them with his actions.

Ostensibly it is predictive validity rather than concurrent validity that seems to provide legitimacy for school practices. It is argued that successful performance in secondary school is necessary for success in college, that successful performance in elementary school is necessary for success in secondary school, and so on back to the learning presumably fostered by preschool education programs. This way of legitimizing present school practice is vulnerable in two aspects:

The first is the timing of demands for learning particular contents and skills during specified periods of schooling. These demands are justified by the notion of critical periods or by the presumption that the skill or con-

tent is prerequisite for subsequent learning. Either means of justification is defensible provided that it is demonstrably valid; the problem is that for many kinds of school learning, neither a critical period nor prerequisite status has been demonstrated empirically.

Or, consider the age at which formal schooling begins. If one requires evidence demonstrating a positive effect of early school entrance on later school achievement, there is little evidence to support progressively lowering the age of required school entrance. Some studies show that early childhood education programs can promote higher levels of school achievement in the early grades of primary school, but what are the effects of early school entrance on academic accomplishment in secondary school? At the present time the question cannot be answered decisively.

A second source of vulnerability in the legitimizing rationale is even more serious than the first: The evidence that academic success determines, or even relates to, the level of postschool achievement provides little justification for the validity of school criteria of student progress. On the whole, available evidence does not support the legitimacy of instructional practices and within-school criteria of student progress in terms of their predictive validity for later life success.

The failure of present schooling practices—The fact that neither concurrent nor predictive validity can be demonstrated for schooling practices would be less unsettling if schooling were a benign experience, and if the degree of within-school success did not have critical postschooling consequences. Evidence reveals two major ways in which the goals of education are not adequately realized. First, even those who meet the criteria of schooling—that is, those who score well on tests—do not appear to succeed any better in postschool tasks than those who score poorly on tests. Second, as evidenced by the frequency of poor performance in college and by the attrition rate prior to college, large numbers of students fail even to meet the testing criteria of schooling, much less attain the larger goals of education.

Skill proficiency vs. content proficiency—The goal of education is to assist the student to be adaptive in extraschool tasks. It is plausible to presume that the components of this goal include: acquisition of skills for accurately locating and efficiently learning new information and new skills; acquisition of skills for extending information, creating information, and for solving problems; acquisition and maintenance of motivational systems that will foster learning and problem solving. The kinds of information and problems and learning referred to encompass social, emotional, personal, and practical, as well as intellectual domains. Finally, a critical stipulation is that attainment of these goals can only be certified when performances that exemplify them are under autonomous control—that is, when environmental supports for these behaviors are weak or negative and the individual is independently competent.

The contrast between the recommendations advanced here and prevailing educational practices is best illuminated by a consideration of comparative assumptions and relative emphases. Ironically American public education is still organized on some basic assumptions of a classical philosophy of education. Principal among these is the assumption that mastery of the contents of a particular set of aca-

demic disciplines results not only in literate students, but in students amply equipped with intellectual skills.

There is nothing inherently wrong with any of the school disciplines, but the meaning of *proficiency* in them is open to dispute. The manner in which proficiency is judged suggests strongly that it refers to behavior demonstrating that the student has learned and can accurately recall the factual and theoretical contents of the various disciplines. Another possible meaning of *proficiency* receives substantially less emphasis—that is, competence in the skills that produce information and theory in the various disciplines. In most cases these skills can be characterized as methods for acquiring, retaining, and extending or producing trustworthy or heuristic information. The contrast between these two meanings of the term *proficiency* may be clarified by examples:

Elementary. Content proficiency is listing the capital cities of the States, given the State names as cues; skill proficiency might be constructing a mnemonic link between State names and capital names in order to memorize them.

Secondary. Content proficiency is exemplified by stating Ohm's law; skill proficiency, by conducting experiments to test the law.

College. Content proficiency might be expressed by answering questions drawn from a text on modern English history, whereas skill proficiency might consist of writing a brief text on a subtopic of modern English history, including the prerequisite document research.

These examples of skill proficiency are only rarely assessed formally in the course of schooling and yet they are quite conservative, directed as they are to school criteria. Skill proficiency could be demonstrated in extraschool contexts as well.

One justification for emphasizing content over skill proficiency during formal schooling is that the acquisition of a large volume of content is prerequisite for effective skill acquisition. Yet it has not been demonstrated that the mastery of large amounts of content is necessary for skill acquisition. Even if content mastery were necessary, appropriate methods for presenting content can increase learning rates so as to provide ample time for skill learning in the context of immediate relevant experiences. A second justification for the abstracted character of education is the assumption that the abstract mode is conceptually more powerful than the concrete. But evidence is not clear that even the finest abstract thinkers ever abandon their penchant for manipulating ideas in terms of relatively concrete exemplars.

Therefore, it might be salutary for the prevailing neoclassical philosophy of education to yield to a form of education in which objectives are explicitly defined in terms of skill.

From Objectives to Practice: The Promise of Research

Before a change in educational objectives can effect profound revisions in schooling practice, a number of questions must be answered. What kinds of skills can be taught effectively? What are the components of such skills? How does the timing and sequence in intellectual skills relate to characteristics such as age, IQ, SES, and ethnicity? These questions remain unresolved not because they are unanswerable, but because researchers have not addressed them.

Virtually any intellectual skill can be taught if it can be specified in behavioral terms. A strategy for achiev-

ing behavioral specification of the subprocesses that comprise learning and thinking skills might be: Sample persons known to be proficient at tasks in which success depends on the learning skill(s) of interest. Present that sample with the designated tasks, and interview subjects about the manner in which they performed the tasks. Synthesize a list of possible components of the subprocesses from the interview data and from other relevant data and theory. Regard the list as a set of hypotheses asserting the conditions necessary and sufficient for successful performance on the tasks in question. Test the hypotheses by instituting these conditions for samples of subjects who are typically less successful at the specified tasks than the original sample. Revise the hypotheses in accord with the outcomes of testing. Develop a training program with the objective on inducing initially less successful subjects to acquire and use the skills validated by the hypothesis testing research.

Three successively stronger criteria for such a training program are: improvement in task performance as a result of training; improvement to the level characteristic of the original informat sample on criterion tasks; and improvement on transfer as well as on criterion tasks to a level commensurate with that of subjects in the informant sample. Repeated revision of the training program and, in turn, the hypotheses that guide it should result from the inevitable failures to reach each of these successively stronger evaluation criteria.

This strategy and the kinds of knowledge it can yield may be illustrated in the research program we have pursued during the last several years.

Initial research—We began our investigations in an effort to identify processes and conditions that promote efficient learning, and we selected the technique of paired-associates learning as a tool that would permit incisive analyses of research questions.

In order to discover how proficient learners master paired-associate (PA) tasks, samples of college students were interviewed after performing such tasks. Their responses indicated that students who learned best *elaborated* the PAs either verbally or pictorially. Thus, an informant sample was selected, given the designated tasks, interviewed about the manner in which they accomplished the tasks, and the results of the interview were reduced to a list of hypothesized components of skills for efficient PA learning.

For one of these hypotheses, that sentence elaboration facilitates noun-pair learning, a cross-sectional developmental study provided qualified support. Findings suggested that sentence elaboration is substantially responsible for the ability of more proficient (older) learners to exceed the performance of less proficient (younger) learners.

Testing other populations—In order to appraise the generality of our findings for other populations, we selected populations reputed to be widely disparate in performance on learnings tasks: children from high SES white residential areas and children from low SES black residential areas. We regularly failed to detect differences between the two populations sampled when elaboration conditions were manipulated by varying the manner in which the learning materials were presented. However, when population differences in PA performance were detected, they emerged in the elaborated conditions more often than in the nonelaborated conditions.

Next we undertook to measure the effects of training on performing a transfer task. We instructed samples of high SES white and low SES black second grade children how to create verbal and pictorial elaborative techniques during 5 daily training sessions of 15 minutes each. The magnitude of benefit from training was small compared to that produced by simply presenting learning materials in an elaborated form, and the population difference was more markedly in favor of the high SES white children after training than before.

In a final test we conducted another training study on high SES white and low SES black preschool and kindergarten children. Performance was found to vary markedly as a function of presentation conditions—elaborated pairs were learned more efficiently than nonelaborated ones in all samples. But effects of elaboration training were not detectable, despite the fact that daily instructional sessions had been given.

The question posed by the failure of these two studies to improve substantially the learning efficiency of either high SES white or low SES black children is: Why does presented elaboration facilitate learning whereas elaboration training does not?

Related research findings—This account of efforts to train children in the use of elaborative skills is reminiscent of two other lines of research in experimental child psychology: research on production and mediation deficiencies, and research on skills characteristic of the stage of concrete operations described by Piaget. In both cases the age range involved is typically 5 to 7 years, and for this age range few, if any, developmental changes have been discovered in phenomena attendant to the skills of sentence elaboration. This suggests an interesting hypothesis: *the capacity for autonomous sentence elaboration becomes visible in the age range identified with the emergence of formal operations rather than during that identified with the emergence of concrete operations.*

Data relevant to this hypothesis have recently been secured in an experiment designed to indicate the developmental level at which autonomous elaborative activities begin to characterize PA learning processes in children. The study involved students in grades one, three, six, eight, and eleven in two school districts—one serving a high SES white population and another serving a lower SES white population. Results suggest that, at least on this PA task, autonomous elaborative activity begins to emerge in high SES white samples in the age range of 11 to 14 years but does not emerge in low SES samples even by age 17. Also the deficiency in PA learning efficiency between high and low SES samples becomes pronounced only in the age range spanned by the 6th to 11th grade samples, not in the 1st and 3rd grade samples. Thus it appears that efforts to assist students increase learning skills through training in autonomous elaborative activity are more appropriate in the adolescent than in the early childhood period.

We extended the generality of these conclusions through a replication of the design which included low SES black 6th and 8th graders. Even more pronounced contrasts emerged relative to high SES white performance, with the larger differences occurring in the older groups. Comparison with the data of the previous study suggests, then, that population differences attributable to enhanced autonomous elaborative activity emerge more

forcefully after the chronological age of about 11 than they do before.

Questions for research—Results of these experiments lend credence to the hypothesis that training which promotes the autonomous use of effective learning skills will achieve more success with children in the early adolescent age range than in the early childhood range. The hypothesis raises a number of intriguing questions. Do the results of the PA experiment generalize to other tasks? What are the effects of prior formal schooling on the emergence of autonomous learning skills, and do these effects vary as a function of the kind of prior schooling experienced? Is it possible to successfully promote, through education, the emergence of such skills, even at the optimal age range, among low SES students? Necessary research has not been done to provide answers to any of these questions.

Implementation and Policy Implications

The view of intellectual development advanced here suggests that attempts to increase the autonomous cognitive competence of students are more likely to succeed if they are delayed until near the end of the elementary school years. The view also suggests that the probability that such efforts will succeed can be further increased by designing explicit instruction to promote the acquisition of autonomous intellectual skills and by evaluating student progress and instructional effectiveness in terms of performances that display those skills rather than in terms of performances that demonstrate acquisition and retention of prescribed, discipline-oriented content.

Similarly, this view disavows optimism about the long term advantages that can accrue from intensive programs of preschool education. Skepticism on this issue arises from two convictions: that the character of learning and thinking processes in adulthood is discontinuous with the character of such processes in early childhood; and that the character of the demands made by intellectual tasks in adulthood is discontinuous with the character of task demands in early childhood. Furthermore, the character of school learning tasks at all levels, as education is currently conducted, is discontinuous with the character of task demands outside of school.

Despite skepticism about the durability of effects achieved through intensive early childhood education, the present view of intellectual development arises from and is rooted in experimental analyses of learning phenomena. This is revealed in its implication that training in the use and acquisition of autonomous learning and thinking skills should be beneficial, *provided that such training is properly timed and sequenced.*

If the views advanced here were adopted, what are their implications for the schooling of children aged 11 or 12 or under? A strong implication might be that formal schooling prior to these ages should be abandoned on the grounds that it does more harm than good. My own opinion is not that formal schooling prior to adolescence should be abandoned, but that it should be radically changed. The guiding principle of early education (preschool and primary) should be to provide the child with repeated experiences of gratification resulting from intellectual activity. Lest this recommendation be grossly misread, it must be emphasized that it refers to satisfying work and play, not to training in techniques of self-indulgence and mediocrity. Accordingly, children might learn

skills of auditory and visual discrimination, of counting and classifying, of feeling and satisfying curiosity, of communicating with and understanding others, even of reading and writing during the elementary years. But mastery would not be required at a particularly early age, rather at the time the child can acquire the skills readily and successfully. Furthermore, those skills selected for instruction in the preadolescent years would be legitimized by their validity for the accomplishment of extraschool tasks. Finally, the evaluation of student progress and of the efficacy of instruction would be in terms of the performance of skills rather than in terms of the retention of content.

This sort of revision of elementary schooling is certain to evoke considerable opposition despite the argument and evidence that can be marshalled in its support. One strategy for overcoming opposition requires tactics for demonstrating the practicality of promoting the development of autonomously competent persons through instruction in intellectual skills, skills of learning and thinking, beginning at the transition to adolescence. In order to achieve such a demonstration, research and development focused on the target age range must be fostered in a massive way, for at present we know almost nothing about intellectual development during adolescence. It is particularly important that such programs of research should be comparative in nature, including students from low income families, since it is these populations that suffer the most practical damage and who are the most "intellectually burned" by current schooling practices. Fortunately, the yield of the proposed programs of research and development will be salutary as well for more affluent populations in which the damaging effects of schooling are better hidden but no less personally painful.

Mental Health and the Law

Drug Addiction and Alcohol Abuse under Workmen's Compensation

WILLIAM J. CURRAN

Two important decisions recently passed down by State supreme courts concern serious health problems in society: drug addiction and alcohol abuse. Both cases arose under the Workmen's Compensation Law of the respective States.

In the drug addiction case the California Supreme Court was faced with a difficult and complex case arising out of a previous award of permanent partial disability to an employee who had sustained a back injury at work. Physicians over a period of years had prescribed quantities of analgesics, tranquilizers, and sedatives to the claimant, who was admitted to have chronic personality problems. The claimant brought the current case to reopen her previously closed claim to seek further monetary benefits and medical care because she alleged that she was now habituated to drugs.

In the Workmen's Compensations Appeals Board, evidence was submitted by the employer that the claimant was using drugs obtained to feed her habit by getting prescriptions and by obtaining drugs illegally. It was also alleged that the claimant had lifelong neurotic personality problems and would have had these problems even without the back injury.

The California Supreme Court held that compensation could not be denied for this addiction even if the claimant were severely neurotic before the injury and even though she had abused use of prescribed and illegally obtained drugs. The Court held that a preexisting neurosis does not bar Workmen's Compensation recovery; neither did the illegal use of drugs, but the Court held that the award could be limited to the employer's liability for the effects of drugs obtained by prescription. The Court ruled that claimants could recover full benefits if their drug addiction would not have "materialized" except for the industrial injury, and also that a partial recovery could be allowed for an industrial injury that aggravated or contributed to a preexisting addiction problem.

In the other case the Delaware Supreme Court was faced with a statute denying all compensation benefits to workmen injured "as a result of intoxication." In this case, the claimant was intoxicated at the time of his injury and subsequent death. He was working under an automobile when the car moved a short distance over him, and his jaw was broken. It was alleged that because of his intoxication, he was unable to move quickly and as a result suffocated. On the basis of these facts, the Delaware Industrial Accident Board denied compensation. The Delaware Supreme Court reversed the case and awarded death benefits. The court construed the statute strictly as applying only to cases in which the claimant's intoxication was the "proximate" cause of the injury—that is, in which the injury would not have occurred "but for" the intoxication. In the Delaware case the intoxication of the workman at most aggravated the injury. The statute does not bar recovery of benefits because of the aggravation of legitimate industrial accidents.

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Mental Health News Digest

World Meeting on Drugs

The first worldwide meeting of the International Reference Center for Information on Psychotropic Drugs was held in Plitvice, Yugoslavia. The NIMH, which developed and operates the International Reference Center for the World Health Organization, called together the heads of the 20 centers which now comprise the information network for the special meeting.

Dr. Alice Leeds, Chief, International Reference Center, opened the scientific sessions. The IRC participants and several experts on international drug information exchange followed with their presentations. A main feature of the meeting was the operation from Yugoslavia of an NIH computer in Bethesda, Maryland to demonstrate a psychotropic drug information system developed and operated in the U.S.A. by NIMH in collaboration with the Biometric Laboratory of the George Washington University and the Division of Computer Research and Technology of the NIH. Participants were invited to search the system for descriptions of drug studies of interest to them. They, in turn, contributed similar data to the system on a continuing basis.

In collaboration with leading investigators in other countries, the IRC has developed for use by participating centers a classification of psychotropic drugs which has been adopted by other scientists as well. IRC has also developed an *International Roster of Psychotropic Drug Investigators.* In addition, its *Psychopharmacology Bulletin,* a quarterly journal, provides an outlet for informal exchange of information among scientists of all countries.

NCDAI After 1½ Years

The National Clearinghouse for Drug Abuse Information is now little more than 1½ years old. The Clearinghouse, operated by the NIMH on behalf of the Federal agencies engaged in drug abuse education programs, is the focal point for Federal information on drug abuse. The Clearinghouse distributes publications and refers specialized and technical inquiries to Federal, State, local, and private information resources. A computer data bank on drug abuse programs and drug abuse information resources and materials has been started. This computer bank now makes it possible for the government to give much more detailed answers to queries than was possible under the old, decentralized system.

Since June 1970, more than half a million queries have been answered by the Clearinghouse staff. It had been projected that approximately 10,000 inquiries would be processed each week, but, during peak periods, that number has been closer to 18,000 inquiries per week. *A Federal Source Books: Answers to the Most Frequently Asked Questions About Drugs* was the first Federal publication to represent the combined input of all agencies concerned with the drug abuse problem. Now other publications that are being distributed include a brochure describing the Clearinghouse and its services; an annotated listing of 13 films; a drug education curricula series for grades K through 12 produced in cooperation with the Office of Education; a newsletter; a weekly listing of bibliographic references; and a series of subject area fact sheets. The Clearinghouse also provides audiovi-

sual services. Inquiries range from the general publication request to requests for information on a specific research project. Inquiries should be sent to the National Clearinghouse for Drug Abuse Information, 5600 Fishers Lane, Rockville, Maryland 20852.

Measures for Prevention and Control of Drug Abuse

A report on a Working Group convened by the Regional Office for Europe of the World Health Organization on "Measures for the Prevention and Control of Drug Abuse and Dependence" is now available for persons officially or professionally concerned with this field of study. The meeting was held in The Hague, Netherlands, from April 14–17. The report follows the agenda of the Working Group, which includes an introduction to the long-term program in alcoholism and drug dependence; the purpose of the Working Group; legal, social, medical, educational, and other measures for the prevention and control of drugs, with reference to international, national, and local experience; the evaluation of preventive measures; deficiencies in existing provisions and possible remedies; coordination of measures at national and international levels; and proposals for the further activities of WHO in this field. The report is available from the Regional Office for Europe, World Health Organization, Copenhagen, Denmark.

New Council Member

Ambassador Louise Gore, United States Member of the Executive Board of UNESCO, was recently named as a new member of the National Advisory Mental Health Council. Ambassador Gore was a member of the Maryland Senate from 1967 to January 1971, and she is Director of the International Rescue Commission. Her term of appointment on the NAMHC extends through September 1973.

New Publication

A new monthly journal, *Psychiatric Annals,* attempts to review current practices and research in psychiatry and to examine innovations and developments in other disciplines which impinge on the concerns and work of psychiatrists. The journal will express essential principles involved in keeping up with psychiatric progress, and in-depth reviews of controversial subjects will be offered frequently. For example, the first issue of *Psychiatric Annals* (Vol. 1, No. 1, September 1971) focuses on the population avalanche —people and behavior. Dana L. Farnsworth, M.D., and Howard P. Rome, M.D., are the Editorial Directors.

Psychiatric Annals is distributed free to psychiatrists, child psychiatrists, and neurologists; others may order subscriptions at the rate of $20.00 per year ($25.00 for foreign orders). The monthly publication may be ordered from Insight Communications Co., Inc., 150 E. 58th Street, New York, N.Y. 10022.

Conference on the Voluntary Control of Internal States

Last spring the Interdisciplinary Conference on the Voluntary Control of Internal States was held at White Memorial Camp at Council Grove Reservoir, Kansas. Ninety scientists from all over the world were invited by The Menninger Foundation to participate in the conference in an effort to correlate studies of altered states of consciousness. The specific task of the conference was to share information and research in an attempt to define

reality and the relationship of altered states of consciousness to reality and to discuss how scientific research can help answer the complexities which surround the nature of consciousness.

A plea for more research and more systematic studies of experiences was voiced by several of the scientists. To a large extent discussion was dominated by personal experiences of altered states of consciousness. This was the second such conference at Council Grove. Another is planned for next year. The Council Grove Conferences have been described as the first step in providing order to varied experiences of altered states of consciousness, thereby laying the groundwork for what could become a new scientific field of study. (From *Menninger Perspective,* Aug./Sept. 1971)

American Public Health Association Annual Meeting

The 99th Annual Meeting of the American Public Health Association was held in Minneapolis during the week of Oct. 10–15. Highlighting the meeting were four General Sessions, open to the public for the first time this year, with topics ranging from a national health program to a citizens' inquiry into health services in this country. Several of the topics were in the mental health field:

"Psychiatric Utilization Review and Evaluation." A report was given on a Psychiatric Utilization Review Project, the purpose of which was the development of methods for patient care evaluation appropriate in a community mental health center. The overall approach was: (1) to develop explicit criteria; (2) to develop a computer based record system for collecting routine data, useful for aggregate data on patterns of care; and (3) to assist the Connecticut Mental Health Center in implementing an ongoing system and criteria. The method succeeded and it was found that clinicians appear more sensitive to the issues in the decision-making process and to factors influencing care.

"Factors Associated with the Provision of Mental Health Services by Community Hospitals and Health Departments." The objectives of the study were to identify the nature and scope of mental health services provided by acute general hospitals and health departments and to identify factors that may be associated with implementation level. The association between community and organization size, and implementation level is illustrative of the study findings.

"A New Mental Health Services Model for the Comprehensive Neighborhood Health Center." A new model has been made which emphasizes the mental health staffs' relationship with the family health care team in which they are functioning members; appoints one mental health staff member to relate to each team and to function as a mental health "generalist" to provide consultation, education, diagnostics, and therapy with specialized backup; utilizes the mental health skills of paraprofessionals on the team; and encourages all team professionals to carry out mental health tasks according to their ability and interest.

"Mental Health Outreach of Occupational Health Service in a Government Setting." This session concluded that the orientation of the occupational health staff to the identification of human needs—requirements and behavior deficits, facilitates the extension of the treatment arena beyond the medical department confines.

"Social Work Manpower for the Health Services: Prospects and Prob-

lems." This paper stated that there is a steadily inceasing demand for diversified social services in the delivery of health and medical care in the U.S. Guidelines for reassessment of recruitment, training, deployment of existing personnel, and steps needed to be taken to expand the manpower supply in areas of critical need were presented.

"Entry into Methadone Maintenance Programs: A Followup Study of New York City Heroin Users Detoxified in 1961–1963." This study concluded that narcotic addicts detoxified some 8–10 years ago are still continuing to enter the methadone maintenance program during the last 18 months. A further increase in the entering population has been reported. There are marked ethnic and sex differences in the rate of entrance. The entrance of black patients has not continued to accelerate as it has for nonblack patients. Patients with indices for more severe addiction were more likely to enter MMTP.

"Epidemiologic Assessment of Community Mental Health: A Review and a Proposal." The Center for Epidemiologic Studies of the NIMH is developing a program to apply epidemiologic techniques commonly used for somatic disorders to emotional disorders and a mental health. It combines objective mental health survey techniques, epidemiologic field investigation of unusual occurrences, assessment of psychological factors in community mortality rates; and social, economic, and psychiatric data relevant to mental health that already exist in the communities.

"The Concept of a Support System for Family Care and Education." Different objectives and personnel of family support programs were discussed. Effective planning and coordination was said to require additional information from parents and professionals on family needs and on existing informal and formal support mechanisms. The paper urged the development of a comprehensive family support system that integrates the effects of the health, child care, and education professions.

One of the highlights of the meeting was that approximately 6,000 delegates of the APHA passed a resolution urging that the Nation stabilize the population through family planning, including "safe legal abortions" in all States, sterilization of men and women if necessary, expanded population research, and universal public education on the causes and effects of population growth. The resolution called for the "establishment of a national goal of replacement reproduction within this decade."

The 11th and final year of the Bronfman Prizes of the APHA were presented to John H. F. Brotherston, M.D., Dr. P. H., chief medical officer, Scottish Home and Health Department; Ruth B. Freeman, R.N., Ed.D., professor emerita of public health administration, the Johns Hopkins University; and James H. Steele, D.V.M., M.P.H., former chief public health veterinarian of the U.S. Public Health Service. The Sedgwick Memorial Medal was received by Margaret Arnstein, R.N., M.P.H., dean of the Yale University School of Nursing. The prizes recognize meritorious achievement, without national boundaries, for current creative work in applying new scientific knowledge to the betterment of community health; pioneering in the protection and promotion of public understanding of individual and community health responsibilities; and overcoming the lag between dis-

covery and implementation of health findings.

Information System for Counselors

The ERIC Clearinghouse for Counseling and Personnel Services (ERIC/CAPS) has developed a *synergistic information system for counselors.* The six elements of the system are information tools designed for use independently or in any combination. Publications included in the system are:

Access: Resources for the Helping Professions—Semiannual, annotated bibliography published in cooperation with the American Personnel and Guidance Association. Subscriptions available from the Subscriptions Manager, APGA, 1607 New Hampshire Ave., N.W., Washington, D.C. 22009. $18.00 regular subscription; $15.00 for APGA members.

Communique—News sheet for school counselors. $3.00 per year for nine issues.

Impact—Quarterly magazine. Annual subscription $6.00.

Personnel Services Reviews—State-of-the-art papers. Published irregularly, individually priced.

The *Little Annual*—Annual volume reviewing counseling research and practices. Spring 1972 issue, approximate price $5.00.

CAPS Capsule—Triannual newsletter describing the ERIC/CAPS program. Free upon request.

Subscription orders for the five publications listed above should be sent to ERIC/CAPS, School of Education, The University of Michigan, Ann Arbor, Mich. 48104. A more complete description of the *synergistic information system for counselors* appears in *CAPS Capsule,* Vol. 5, No. 1, Fall 1971.

Mental Health Book Review Index

The Mental Health Book Review Index, an annual list of books selected and reviewed by specialists and organized as a bibliography by librarians, aims at a synthesis of the significant monographic literature in the behavioral sciences. The list is based on an unpublished cumulative file of references to signed book reviews, appearing in 288 journals in the English language, of which 225 are still current and publish reviews. Each annual issue of the Index lists about 300 books with references to three or more reviews. The 1971 issue includes an editorial entitled "The Developmental Sciences: A Bibliographical Analysis of a Trend," a list of journals indexed, and an alphabetical list of books with complete bibliographic data.

The Mental Health Book Review Index is sponsored by the World Federation for Mental Health, the International Council of Psychologists, and the Department of Psychology, New York University. It is published annually by the Council on Research in Bibliography, Inc. The Index may be obtained for $10 by writing to Mental Health Book Review Index, Paul Klapper Library, Queens College of the City University of New York, Flushing, New York 11367.

recent nimh publications

Single copies of these publications may be obtained from the Office of Communications, National Institute of Mental Health (Publications Issuance Unit, Room 1B64, Parklawn Building, 5600 Fishers Lane, Rockville, Md. 20852). A complete list of all publications available from the NIMH may also be obtained from the Office of Communications. If a price is given, the publication may be ordered in quantity from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Enclose a check or money order payable to the Superintendent of Documents.

Early Childhood Psychosis: Annotated Bibliography 1964-1969: This annotated bibliography contains over 400 abstracts of articles on infantile autism, childhood schizophrenia, and related disorders, subdivided according to their major emphasis. It was prepared by Carolyn Q. Bryson and Joseph Hingtgen of the Clinical Research Center for Early Childhood Schizophrenia, Indiana University Medical Center, Indianapolis, Ind. Sections pertain to the syndrome, intellectual development, perceptual processes, language, neurobiological correlates, treatment, and theory. Publication No. (HSM) 71-9062.

Developing Community Services for Alcoholics: Some Beginning Principles. This 39-page book attempts to bring together specific information about the disorder known as "alcoholism," and the principles involved in developing and delivering services to the "alcoholic" and to his family. Chapters include the nature of the problem, components of comprehensive community services, delivery of services, organizing community resources for a comprehensive alcoholism service, and evaluation. Publication No. (HSM) 71-9016. 50¢.

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